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THE

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The Journal of the Australian Branches of the British Medical Association.

VOL. I.—4TH YEAR—NO. 2. SYDNEY: SATURDAY, JANUARY 13, 1917. PRICE 6D.

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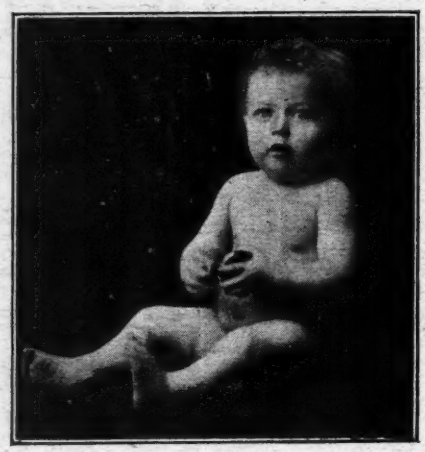
CASE No. VI.

Before Virol.



After Virol.

Medical Report on above case of Chronic Diarrhœa.

"On examination I found her much emaciated with abdomen greatly distended and having a temperature of 101. She cried continually and appeared to be in great pain. She was without doubt suffering from Tubercular Peritonitis. The diet I prescribed was an eggspoonful of Virol and two ounces of whey every two hours. Within one month she gained considerably in weight and put on flesh. The temperature became normal and the diarrhœa ceased. I continued freely for some months longer on Virol, substituting milk for whey. The child is completely restored to health."

VIROL

More than 1,000 Hospitals and Consumption Sanatoria use Virol.

THE MEDICAL JOURNAL OF AUSTRALIA.

VOL. I.—4TH YEAR. SYDNEY: SATURDAY, JANUARY 13, 1917. No. 2.

THE LOCALIZATION OF FOREIGN BODIES IN THE EYE.[1]

By J. G. Edwards, M.B., Ch.M. (Syd.),
Honorary Asistant Radiographer, Sydney Hospital;
Honorary Radiographer, St. Vincent's Hospital.

Having been questioned on many occasions by medical men as to the methods I employ in the localization of foreign bodies in the eye, I thought it might be of interest to members if I gave a short description of the various methods employed, with particular reference to Dr. Sweet's method, which I have been practising for the past two years.

Foreign bodies in any part of the anatomy have to be localized fairly accurately to allow of their removal, but in the eye the need for accuracy is much greater, as much damage may be done by unnecessary searching in so delicate an organ.

Further, the foreign particle in the eye is generally most minute, and rarely exceeds a couple of millimetres in diameter, whereas foreign bodies in other parts are of much larger size.

There are four methods employed in this class of work, *viz.*:—

Antero-posterior and lateral skiagrams.
Mackenzie Davidson's cross-thread method.
Stereoscopic radiography.
Dr. Sweet's method.

The first method is rough, and allows of localization of the foreign body to one of four quadrants, and no greater degree of accuracy is possible, even by a practised radiographer.

The cross-thread method is accurate, but clumsy, and gives the distance of the foreign body from the plate, and a calculation is necessary to make allowance for the distance of the eye from the plate, a distance which varies with every patient. It is necessary to move the tube a known distance between exposures and to develope two plates. The process would occupy about three-quarters of an hour, or longer.

Mackenzie Davidson has recently modified this method, but the result is to complicate it still further.

The stereoscopic method is of no practical value, and whenever I employ it I do so merely to produce a pretty picture, which brings joy to the heart of the observer, but tells nothing as to the position of the foreign body.

Dr. Sweet's method is simple, and can be used by a novice after a short trial. The whole process can be carried out in a few minutes, and the patient can be sent back to his surgeon in ten minutes from the commencement of the examination with the foreign body accurately localized.

I have been using this method for the past two years, both in private and in hospital. During this period over two hundred cases of supposed foreign body in the eye have been radiographed at the Sydney Hospital, St. Vincent's Hospital and in private.

Foreign bodies were found to be present in 52 cases, and in these cases I have carried out the localization by Sweet's method and the localization has been correct to the millimetre, with a couple of exceptions, in which there had been marked inflammatory changes in the eye, and the patients had been unable to open the eye during the examination. In these cases, three in number, there was an error of about 2 mm. only.

It is very important that the patient should keep the eye open, as there is an upward rotation of the eyeball when the eye is closed, and a consequent large source of error is introduced.

The necessary apparatus consists of a head-rest and clamps, a plate-holder and tunnel, a small adjustable cross-arm localizer and a set of charts.

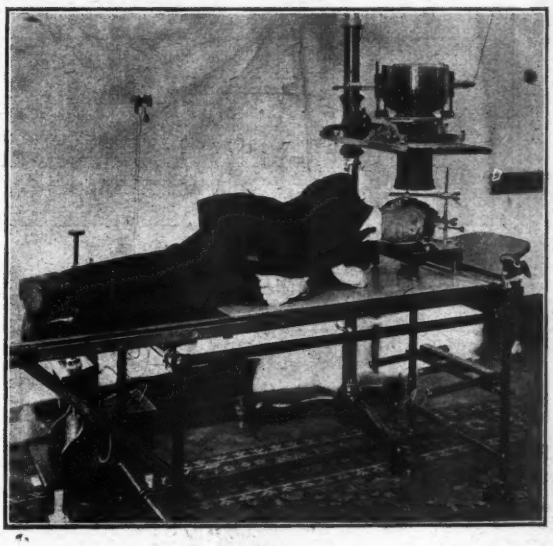


Fig. I.

The localizer, as you can see, consists of a support carrying a cross-bar, on which are fixed two arms, on the upper of which is a ball and on the lower a cone. These are in the same vertical plane, and are 15 mm. apart. A spring is attached to the cross-arm, which allows a cross movement of 10 mm.

From these measurements Dr. Sweet has worked out his localization chart; no measurements of the distance of the tube from plate or distance of movement of the tube between exposures are necessary.

The patient's head is clamped, to prevent movement, and the ball of the localizer is placed directly opposite the centre of the cornea, with the patient looking directly forward. The patient is then told to close his eyes, and the localizer is advanced and

[1] Read at a Meeting of the New South Wales Branch of the British Medical Association on November 24, 1916.

pressed into the lid for about its own depth; the spring is then released and the cross-arm springs back 10 mm. The patient then keeps looking directly forward while two exposures are made. The first exposure is made with the tube in such a position that the ball and cone are in the path of the central rays (see Fig. I.). The tube is then shifted about four or five inches towards the foot of the table and tilted in such a way as to throw separate shadows of the ball and cone (see Fig. II.). The plates, of course, are changed between the exposures, and in such a way that we have two pictures on the two halves of a half-plate.

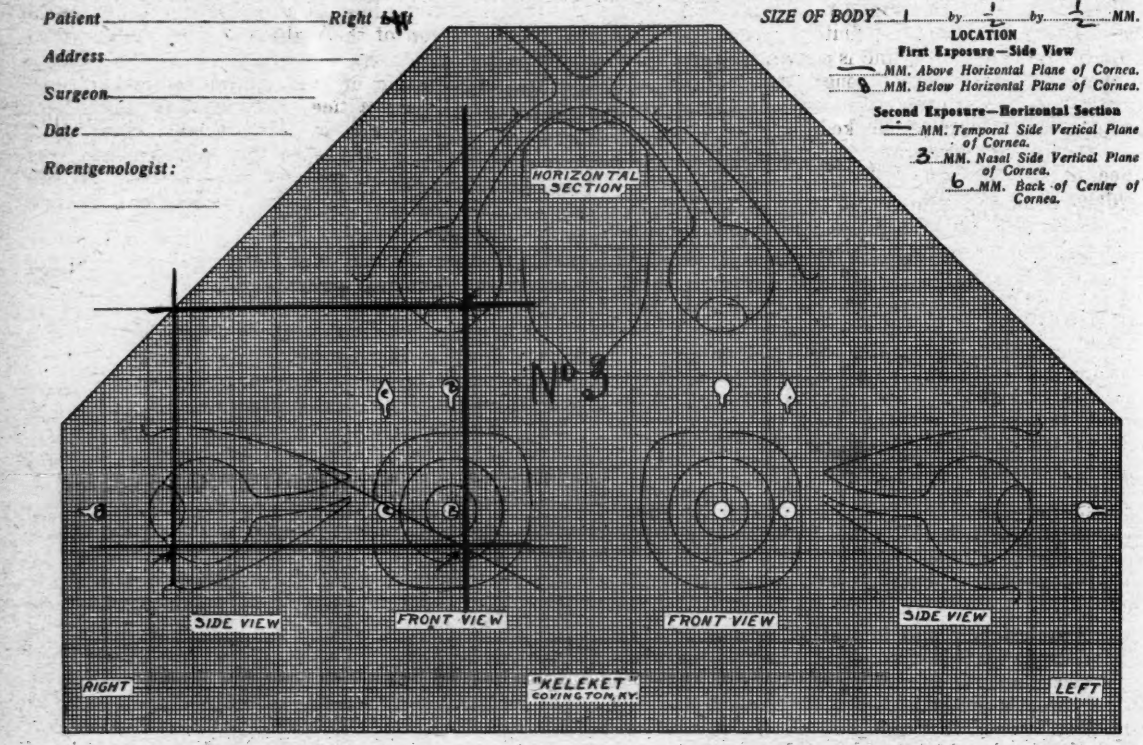


Fig. II.

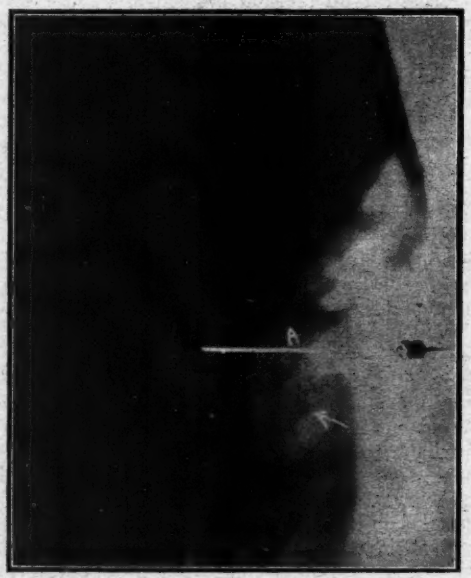


Fig. III.

The accompanying photographs will give a good idea of the position of the patient, localizer and tube

during the examination. After development and fixation, the plate is roughly washed, and it can be examined before an illuminator in the wet state.

The shadows of the supporting arms of the ball and cone are produced indefinitely through the skiagram of the face, and a line is drawn at right angles to these, so as to pass through the centre of the foreign body. With the aid of a pair of calipers the distance can quickly be marked off on the chart.

In the lateral skiagram (see Fig. III.), the distance of the foreign body from the ball of the localizer and its distance above or below the central antero-posterior axis of the eye is obtained and marked. In the oblique skiagram (see Fig. IV.), the distance of the foreign body above or below the axis of the ball and of the cone is measured and marked on the chart. A line, joining these

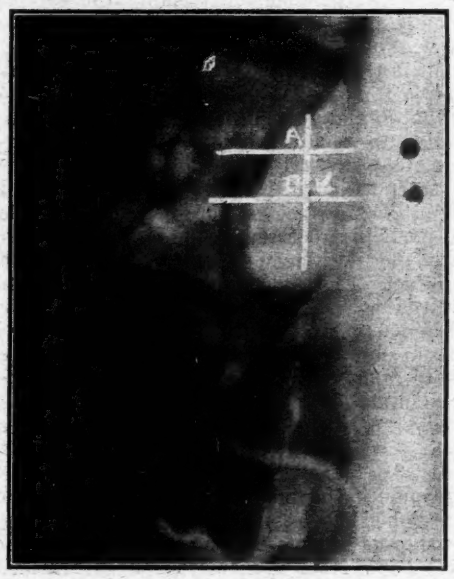


Fig. IV.

points, gives the path of the rays through the eyeball and foreign body, and the foreign body must lie at some point along this line. A horizontal line is drawn through the foreign body in the "side view," and the point at which it intersects the oblique path of the rays gives us the position of the foreign body as seen from in front.

To obtain a view in horizontal section is simply a matter of projection.

Perpendiculars are drawn through the foreign body in the front and side views. From the point at which the latter intersects the 45° angle, a horizontal is drawn, and the point at which this intersects the perpendicular from the front view gives the position of the foreign body in horizontal section (see Chart).

As the chart is marked in millimetres, it is quite easy to give the distances above and below the horizontal plane of the cornea, the distance from the front of the cornea and the distance to the nasal or temporal sides of the central vertical plane of the eye.

The accompanying skiagrams will provide illustrations, from which it becomes apparent how quickly the distances can be transferred to the charts.

The two skiagrams show a foreign body in the anterior portion of the right eye, and the chart refers to the same case.

The explanation of this method is rather more difficult than the practice of the method; but I hope that you have been able to follow it.

The process is simple to the radiographer, and the eye surgeons for whom I have carried out this work all assure me that the localizations are extremely accurate.

THE TREATMENT OF INTRA-CAPSULAR FRACTURE OF THE FEMUR.

By C. E. Todd, M.D. (Brux.), M.R.C.S., L.R.C.P.,
Adelaide.

Few cases in the past have given me more anxiety and trouble than intra-capsular fractures of the femur. They occur almost always in old people; the majority of the patients are women, and they are mostly feeble old folk, and any rigid confinement in a fixed apparatus is an impossibility. It is also useless and ineffective. For some years I have been treating these fractures in a manner which reduces the discomfort to a minimum, and which, moreover, tends in a very large number of cases to induce bony union and a return of the power of walking without assistance. Many reasons are given in the text-books for the failure to get bony union, but the real reason is hardly referred to at all. The fact is that this fracture unites just as well as any other, if the fractured ends are kept in apposition for a period of seven or eight weeks. Firm bony union will almost always take place. How can this be accomplished without subjecting the feeble old person to all the risks incidental to prolonged confinement to bed in an irksome, immovable apparatus? I got the following plan out of an American publication some years ago, but I have mislaid the journal long since, and therefore cannot give the reference. I have now had twenty-three cases, all of which have united firmly by bone. The ages of the patients have varied from 70 to 86 years. A few patients, four, I think, have been brought into hospital delirious with large bed sores and these I have been unable to treat in any way at all; they have all succumbed. The principle to be aimed at is to exert traction on the broken thigh in such a way that, in spite of the movements of sitting up for meals, the broken ends of the bone are still kept in fair apposition. I have had next to no trouble with bed sores, and after the first irksomeness of the position has worn off the patients have expressed themselves to be fairly comfortable. The simplest way of carrying out this treatment is as follows: A carpenter makes a flat board a little wider and a little longer than the bed on which it is to rest. He arranges it so that it can be tilted to the right side or to the left side, according to which thigh is fractured, and also that it may slope upwards from the head to the feet. The foot would commonly be about nine or ten inches

higher than the head, and the side of the fracture would be higher than the sound side by about eight inches. These measurements are not absolute; they can be varied slightly. At the end of the bed there is an upright on to which a pulley is fixed; on the side of the bed corresponding to the fractured thigh there is also an upright with a pulley. This is fixed about a foot nearer the head of the bed than the fractured hip. The object of raising the foot of the bed and also of tilting it towards the sound side is, of course, that the weight of the body may counterbalance the pull of the weights, which are attached to cords running over the uprights. Everything should be in readiness before the anæsthetic, which is always desirable in putting up these fractures, is given. A Buck's extension is applied to the leg, and a broad piece of strapping is put round the fractured thigh as high up as possible, the ends being left long. When the final adjustment is made, it is so arranged that the pull on the posterior flap of this upper strapping exerts sufficient rotary force to correct the eversion which always exists. The first thing to do when the patient is under ether is to break down any impaction. This impaction is rarely strong, although I have had a patient walk uphill a quarter of a mile after falling out of a tramcar, only to sink down at her own doorstep, the impaction of an intra-capsular fracture sustained at the time of the fall having given way. The proper way to do this is to bend the thigh on the body, with the knee kept fully extended. The impaction, if there be any, will be felt to give way. This also serves to free any capsular fragment which may have been nipped between the bones. The thigh is brought down straight again and the cords are adjusted over the pulleys and the weights put on. The traction is downwards and upwards and outwards, the resultant being a constant pull on the upper thigh directly outwards, which keeps the fractured ends in apposition. The patient can sit up for meals and for a time to relieve any pressure. The nursing presents few difficulties. The actual weight applied varies, of course, according to the weight and muscular development of the patient. It has likewise to be increased or diminished from time to time as a reluctant concession to the patient's feelings.

I generally have these cases up in the extension apparatus for seven or eight weeks, and then get the patients out of bed and encourage them to move about. The principal source of trouble afterwards is stiffness of the knee joint, but this can be prevented to a very large extent by occasionally bending the knee during the course of treatment. I have not experienced any great difficulty from this cause. The longest time after the original injury that I have put this treatment into force is seven months, and in this case perfect bony union has taken place, and the patient has regained her power of walking. This treatment should therefore be given a trial, even if many months have elapsed since the fracture took place.

Since writing this note I have had under my care two other similar cases. I have formed the opinion that eight weeks is probably not quite long enough to keep the patient quiet.

A FIBROID TUMOUR OF THE BROAD LIGAMENT.[1]

By J. A. G. Hamilton, M.B.,
Honorary Gynæcologist, Adelaide Hospital.

The specimen I show here to-night is one of fibroid tumour of broad ligament.

Mrs. B., æt. 25 years, nullipara, came under my care with a large tumour occupying the whole of the abdomen, but more prominent on the right side. The diagnosis of ovarian cyst was made. A free incision in the linea alba was made, as is my usual custom in such cases. The right isthmus and utero-ovarian ligament were clipped, divided and tied. The denudation of the mass was commenced from in front, where the immense ovarian veins were noticed as a great plexus. The tumour was then seen to be lying between the folds of broad ligament, running up behind the peritoneum, pushing the cæcum in front of it and quite unconnected with the uterus, which was normal in size, shape and position. A cross cut in the peritoneal covering was made at the top and the tumour was shelled out from above, where the *caput coli* and appendix covered the top end. The appendix was removed as it lay in mesian edge of incision, to prevent it being infolded in the suture line. After the main mass of the tumour had been delivered, an unexpected gourd-shaped satellite revealed itself incarcerated in the right ovarian fossa, beneath the peritoneum. On traction, this came away intact. The right round ligament was drawn backwards with a flap of anterior blade of right broad ligament, and continued with the suture line, which ran obliquely outward from the right uterine corner to *caput coli* cæcum.

On examination, the tumour was found to be discord, like a flattened plum pudding. In recent state its breadth was 10 inches, its length 10 inches and its thickness 3½ inches. Its weight the day after, when a large quantity of fluid was lost, was 7 lbs. It must have weighed 10 lbs. when first removed. On section it showed in almost every situation cystoid cavities resulting from myxomatous degeneration. It was this semi-elastic cystic condition which at first misled to the diagnosis of an ovarian cystoma.

Myomata or fibromata are the most common solid tumours of the broad ligament. The myomata in many cases are probably uterine tumours, which have developed in the broad ligament and have become separated from the uterus. Just as we find wandering fibroids entirely separated from uterus in other parts of the abdomen and getting their blood supply from other organs, so these tumours had originated in the uterus. Less commonly we find true fibroids of the broad ligament which probably arise from the muscular fibres which occur in the broad ligament immediately beneath the peritoneum, which are sometimes well marked (the so-called platysma). This is directly continuous with the musculature of the uterus.

Bland Sutton says that broad ligament fibroids, when entirely detached from the uterine body, are difficult to diagnose from ovarian cysts and broad

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[1] Exhibited at a Meeting of the South Australian Branch of the British Medical Association on October 26, 1916.

ligament cysts or tumours, especially if they themselves are softened or actually cystic. This happened in the case I have just related, as it was separated from the uterus and was semi-cystic. I diagnosed it as ovarian, and started the first part of my operation as if it were an ovarian cyst.

Arising in this way, fibroids of the broad ligament are essentially sub-serous and have primarily no connexion with the uterus. They burrow deeply amid the layers of the broad ligament and strip up the peritoneum. Anteriorly or posteriorly they have no connexion with the uterus except by apposition or slight adhesions, and the uterus itself is generally not enlarged or altered in any way, but is merely pushed forward or backward or to one side by the growth. These growths often attain large dimensions. Bland Sutton records one which weighed 22 lbs. They are generally sessile and fixed, and are nourished by a false capsule composed of layers of the broad ligament. This capsule generally contains large vessels which may give trouble at time of operation. These tumours are apt to form rapidly and cause pain, discomfort and pressure.

According to Doran, floodings do not occur, but the patients are generally sickly and anæmic. It is generally possible to enucleate a tumour of this sort without sacrificing the uterus.

RECTAL ANÆSTHESIA.[1]

By **William Ray, M.B., B.S.,**
Adelaide.

The physiological principles and the earlier experimental work which led up to successful anæsthesia by the rectum are so clearly set out in Gwathmey's recent monograph on anæsthesia that it is unnecessary to enter into any details here. I wish simply to record the technique which I have used in four cases of rectal oil-ether anæsthesia:—

(1)) A purgative dose of castor oil is given the night before operation.

(2) Two hours before operation two soap and water enemata are given.

(3) Three-quarters of an hour before operation a plain water bowel wash-out is administered, and the patient allowed to rest in bed.

(4) Half an hour before operation the patient is given morphine, gr. ¼, hypodermically and the following mixture is run into the rectum:

Chloretone, grs. xv.
Ether, ℥ iv.
Olive oil, ℥ iv.

(5) Fifteen minutes before operation ℥ iv. ether and ℥ ii. olive oil are slowly run into the bowel at a rate not faster than ℥ i. per minute.

The patient is allowed to rest in bed until operation time.

(6) If complete anæsthesia is not obtained by the time the operating-room is reached, a few drops of chloroform are administered by inhalation.

(7) After operation the bowel is washed out and ℥ ii. olive oil left in the rectum.

In detail, the cases are:—

Case 1.—Mrs. R., æt. 48, was operated on on June 10, 1916, for an extensive endothelioma of the right ear and side of the neck.

9.30 a.m.—Morphine, gr. ¼, was injected hypodermically and ℥ i. 50% oil-ether, with grs. xv. chloretone *per rectum*.

9.45.— ℥ iv. ether and ℥ ii. oil mixed were slowly run into rectum.

10.0.—M. xx. chloroform by inhalation.

Surgical anæsthesia was present throughout the entire operation, which lasted 2¼ hours. The pulse-rate never rose above 86. There was no shock.

2.0 p.m.—The patient roused herself. There was no vomiting and no pain whatever until late in the evening.

Case 2.—Mr. K., æt. 62, was operated on on September 9, 1916. Tracheotomy, followed by laryngotomy and excision of a malignant tumour from within the larynx.

Exactly the same times and technique as Case 1.

The operation lasted 1¾ hours. The patient was conscious at 3 p.m. and vomited blood on and off throughout the afternoon. There was no post-operative pain and no shock. The pulse-rate never rose above 88.

Case 3.—Mr. W., æt. 36, was operated on on November 2, 1916. Lid-lip (double).

8.30 a.m.—Morphine, chloretone and ether and oil were given, as in Cases 1 and 2.

9.0.—℥ iv. ether, ℥ ii. olive oil.

9.15.—Operation commenced, a few drops of chloroform being needed.

The operation time was 1½ hours. There was complete anæsthesia. The patient was conscious at 12.30. There was no pain and no shock. He vomited once (blood).

Case 4.—Mrs. S., æt. 35, was operated on on November 3, 1916. Lid-lip (double).

Times and technique as in Case 3.

The operation time was 1½ hours. There was complete anæsthesia. The patient was conscious at 1 p.m. She vomited blood once. There was no shock and no pain.

To the anæsthetist the outstanding features of this method of anæsthesia are:—

(1) Ease of induction. No special apparatus is required.

(2) Evenness of the anæsthesia, which appears to be self-regulated

(3) He is not in the way of the surgeon in eye, throat and head operations.

(4) Nervous patients can be anæsthetized almost without their realizing it.

Though the experience of four cases is very limited, I have been struck with the apparent difficulty of anæsthetizing the patient too deeply when the technique and amounts described above are used, while the patients, especially the two who had had general inhalation anæsthetics previously, expressed complete surprise at having been anæsthetized. The patient, moreover, recovers consciousness in an analgesic condition, and the only vomiting was due to

[1] Read at a Meeting of the South Australian Branch of the British Medical Association on October 26, 1916.

blood swallowed during the operation. When this had been got rid of, the patients never complained of any discomfort.

There was no instance of rectal discomfort.

There are many points in the method which require further experience. Though the above technique appears to be completely satisfactory as far as my cases are concerned, the all-important question of dosage for children must be further worked out. In the literature it is generally regarded that ℥ i. of the 66% oil-ether mixture is to be administered for every 20 lbs. of body-weight—and for the time being this may be regarded as standard, provided that no more than ℥ viii. of the mixture are given. The weights of the patients in this paper varied considerably, yet no distinction in the depth of the anæsthesia could be made out in the various cases.

The question of dosage will form the subject of a later communication.

I wish to thank Dr. Pulleine for allowing me to make use of the material in this paper.

Reports of Cases.

RESECTION OF AN INTUSSUSCEPTION IN A CHILD OF SEVEN MONTHS; RECOVERY.

By P. L. Hipsley, M.D., Ch.M. (Syd.),
Honorary Assistant Surgeon, Royal Alexandra Hospital for Children, Sydney; Honorary Assistant Surgeon, Royal Hospital for Women, Paddington.

My object in recording this case is on account of the extreme rarity of recovery after resection of the damaged bowel in cases of intussusception in children under one year.

On searching the available literature I find the following references to this subject:—

H. L. Barnard, in Allbutt and Rolleston's *System of Medicine* (1907, Vol. 3), says that up to the date of publication of his article "no successful case of resection had been recorded in a patient under one year of age."

C. P. Childe, in the *Transactions of the Royal Society of Medicine* (July, 1910), says "that of 15 cases of resection, anastomosis or colostomy every one died."

Adams, in the *Practitioner* (1910), found "that in 18 acute cases under one year treated by resection none recovered."

Fagge, in the *Practitioner* (1906), says "I believe there is no recorded case of recovery after resection under one year."

Clubbe (1907), in his monograph on *Intussusception*, records one case of recovery out of eight resections. The child in his case was eleven months old and had been suffering from the trouble for eight days. An end-to-end anastomosis was performed with a successful result.

Collinson, in the *Lancet* (October, 1907), reported a successful enterectomy in a child of three months. The anastomosis in this case was done with a Mayo-Robson bobbin.

Peterson, in the *New York Medical Record* (October, 1908), records a successful enterectomy on a child, aged five months, the operation in this case being performed with the aid of a Murphy button.

Fairbank and Vickers, in the *Lancet* (February 5, 1910), record a case treated successfully by means of a Mayo-Robson bobbin. The operation was done under spinal anæsthesia with stovaine.

R. H. Parry, in the *Proceedings of the Royal Society of Medicine*, Section for Study of Diseases of Children (1909, Vol. II., p. 271), reports a case of recovery in which a lateral anastomosis was performed, but the irreducible portion of the intussusception was left alone. His patient was six months old and the operation performed 39 hours after the onset of symptoms. By the time the stitches were removed all trace of the tumour had disappeared. In the course of his remarks he says "there was no record of a recovery after resection for irreducible intussusception in a child under twelve months at the Royal Hospital for Sick Children, Glasgow."

I can find no record of a recovery of a child operated on at the Royal Alexandra Hospital for Children, Sydney, for acute intussusception when bowel had to be resected.

The case I desire to record had the following history: R.L., aged seven months, was admitted to the Royal Alexandra Hospital for Children on June 19, 1916, at 1 a.m. The child was quite well until noon on the 17th. It vomited shortly after eating a biscuit. There did not appear to be any severe pain at this time. The vomiting recurred several times during the afternoon and evening, and the child was much worse on the following morning, when some blood and mucus were seen in the stool. A doctor was called in, and the child was sent into hospital.

The infant was fairly well nourished, although not as healthy-looking as these children usually are. It was listless, had sunken eyes and looked very ill. All the muscles were flaccid, and the usual sausage-shaped tumour could easily be felt through the abdominal wall. The temperature on admission was 97° Fah., and the pulse-rate 100.

The operation was performed at 2 a.m. on the 19th, or about 38 hours after the onset of the vomiting.

Under ether anæsthesia, administered by Dr Lindsay Dey, a three-inch incision, with the umbilicus about its centre, was made just to the right of the middle line. The intussusception was easily reduced up to the last four inches. It was found impossible to reduce the last part without tearing the bowel. A lateral anastomosis between the terminal portion of the ileum and a healthy portion of the colon, just above the intussusception, was performed in two layers; an outer silk and an inner catgut. A catgut ligature was then placed around the healthy ileum and the latter divided with scissors. The end of the ileum was inverted by a purse-string suture, just as the stump of an appendix is commonly treated. The colon was dealt with in a similar manner. The mesocolon and the portion of the mesentery involved were then ligatured in several sections by stout catgut and the affected portion of bowel was cut away. The abdominal wound was closed in layers, reinforcing silkworm-gut sutures being inserted through all the layers except the peritoneum. The child stood the operation well. A continuous rectal saline was given immediately after the operation. The temperature 12 hours later rose to 103° F. and the pulse-rate to 148. The temperature varied between 101° and 102° for five days, during which time bronchitic signs were present in the chest. The breast was given 24 hours after the operation, but only very small drinks were allowed at first. The child vomited the first drink; but the vomiting soon ceased, and the infant steadily progressed until it left the hospital sixteen days after operation. The child was seen again three weeks later. It had gained one pound in weight.

CÆSAREAN SECTION FOR ECLAMPTIC CONVULSIONS.

By H. H. Lee, M.B., Ch.M., *Wollongong, N.S.W.*

The following case may be of some slight interest to obstetricians:—Mrs. P., aged 19 years, was sent months pregnant with her first child. She was first seen by me at 11 a.m. She was "taking fits." The fits began at 8 a.m. Up to the time of my arrival she had had four. On examination she was found to be conscious in the interval between her seizures. Her cervix was rigid, and her os undilated. She had no labour pains. Her urine turned solid on boiling. She was as rapidly as possible removed to Wollongong, a distance of eight miles. Before she was ready for operation she had thirteen fits, four in the last hour, and the last as the anæsthetic was about to be administered. For the last two hours she was quite unconscious.

With the assistance of Drs. Crossle and Jackson (anæsthetist), the abdominal cavity was opened, the uterus delivered through the incision and freely opened. A living child of about seven months was extracted. The hæmorrhage after removal of the placenta was controlled by firm pressure with hot sponges; the uterus was flabby and required considerable kneading, and the injection of 1 c.cm. of pituitrin hypodermically to make it contract satisfac-

torily. The uterus was drained *per vaginam* and closed with three layers of sutures. The abdominal cavity was filled with hot saline, and closed in the ordinary way. Two and a half pints of saline were also injected under her breasts.

She rallied well from the anæsthetic, though she did not regain consciousness for 36 hours. She had no more fits. The drainage tube was removed on the fourth day. Her urine contained only the faintest haze of albumin on the twelfth day. Her wound was soundly healed by the fourteenth. Since then her recovery has been quite uneventful. The infant survived for 36 hours. I have previously had three similar cases. I treated them all by forcible dilatation of the cervix and instrumental delivery. One of the patients died and two recovered. If one is entitled to draw any conclusions from such a limited experience, it would appear that even in country practice, if skilled assistance is available, the abdominal operation is well worth a trial.

Reviews.

SEX AND INTERNAL SECRETIONS.

Dr. Blair Bell states in his preface that his small monograph on the "Sex Complex"[1] is based on the subject-matter of several previous communications, including The Arris & Gale Lectures, delivered before the Royal College of Surgeons of England in 1913, a paper opening a discussion at the Royal Society of Medicine in 1913 and other contributions bearing on the subject. "Sex complex" he defines as the correlation of the internal secretions in regard to the sex functions, and, as a gynæcologist, he is chiefly concerned with the female characteristics and functions.

He acknowledges the generosity of Mr. J. Arthur Smith, who "established a fund to defray the entire cost of these and other researches conducted by me and my co-workers of the University at Liverpool."

The author does not attempt to determine the cause of sex, and proceeds at once to discuss the functions of certain endocritic, ductless organs with internal secretions, and declares that femininity depends on the persistent secretion of these organs acting normally. He admits that the internal secretion of the ovary has never been isolated, and his views on the influence of calcium salts in influencing the metabolism of internal secretion are well known.

He regards every individual conception as being originally dimorphic, that every fertilized ovum is potentially bisexual, and his conclusions as to the influence of the pituitary gland on gestation and as to the strongest factors which induce parturition, though apparently reasonable, require further investigation.

He thinks the function of the ovary is strictly limited to the temporary duty of reproducing the species and by its hormones (internal secretions) of "bending the metabolism of the body to this purpose." He considers the thyroid, pituitary and suprarenals as influencing the development and integrity of the genitalia, whereas the thymus and possibly the pineal glands, when functioning normally, diminish or even prevent sexual precosity. Once, however, reproductive organs are removed, the genital functions of the rest of the endocritic system cease.

He believes that insufficiency of the secretions of thyroid, pituitary or suprarenals may cause a cessation of the genital functions, with atrophy of the uterus.

Propter secretiones internas totas mulier est quod est.

His observations on the pituitary gland, which he regards as one organ and not as having three anatomical divisions with separate structure and functions, come into practical medicine and gynæcology. For instance, the calcium metabolism is influenced directly by most of the internal secretions. Some, as infundibulin and suprarenin, are anabolic to calcium salts, while others, such as the thyroid and ovarian, are catabolic.

With deficient action of the pituitary, he asserts scanty menstruation or amenorrhœa occurs. The normal condition of the *pars anterior* in pregnancy disappears after parturition.

He holds that the symptoms associated with superlaction are all induced by the withdrawal of calcium salts for the purpose of milk formation, and in the treatment large doses of calcium lactate are required.

In considering the vexed questions of the psychoses connected with the reproductive system, he brings into line the alienist, the gynæcologist and the experimental physiologist. This part of his book should be considerably enlarged if it is to impress the general practitioner.

Throughout the book instances are conspicuously plain and the statements didactic; the author probably wishes his work at present to remain in this form.

With the advantages of research and the support of rich benefactions it is reasonable to look to Dr. Blair Bell for further definite statements and enlightenment on ground which has only been broken during the last 20 years. That ground is unquestionably rich in valuable material for general medicine, and possibly he and others may bring some surprising information to light.

EAR, THROAT AND NOSE SURGERY.

The first volume of a manual on the operative surgery of the nose, throat and ear, edited by Loeb, Professor of Ear, Nose and Throat Diseases in St. Louis University, is to hand.[1] The editor worked in collaboration with a number of well-known writers in the production of the volume. This book will be of great interest, not only to the specialist, but to the general surgeon. The illustrations, of which there are four hundred and nine in the text, are a special feature, and the claim of the editor that they are nearly all original is sustained.

The first chapter, of 54 pages, on the surgical anatomy of the nose, is by the editor. Anyone who will study this chapter, especially if he has sections of the skull by his side, will get a good picture of the region in his mind. Chapter II., on the surgical anatomy of the pharynx, larynx and neck, by George B. Wood, is an anatomical study, without suggestion as to surgical methods. The lymphatic system of the neck is clearly explained, and well illustrated. Chapter III., dealing with the surgical anatomy of the ear, is written by George E. Shambaugh, and is well illustrated. The descriptive text is clear. He rightly says that nowhere is surgery more dependent on anatomical knowledge than in operations on the ear, and also that this cannot be acquired from text-books, nor even by operations on the cadaver. A thorough grasp of the complicated anatomy of the temporal bone is best acquired by a study of preparations made especially to show relations. We can say, however, that if the student follows his preparations with the aid of this chapter he will get useful help in their interpretation. There are some descriptions of operative procedures in this chapter. The best guide for opening a cerebellar abscess, according to the author, is the lateral sinus. The abscesses usually lie somewhere along the posterior surface of the petrous bone, in front of the lateral sinus. He advises opening the bone in front, not behind, the sinus. It may be pointed out that the space in front of the sinus is very narrow. The proximity of the posterior semicircular canal, and that of the facial nerve must be remembered. A hurried operation to relieve cerebellar pressure, while artificial respiration is being kept up, would not be possible in front of the sinus.

External operations on the larynx, pharynx, upper œsophagus and trachea are treated in Chapter IV. by Geo. W. Crile. This description will be read with great interest by the general surgeon. It contains valuable information. As may be expected, Crile uses local anæsthesia, "to prevent nocuous impulses from the field of operation reaching the brain," in combination with general anæsthesia. For the latter in laryngectomy he favours nitrous oxide-oxygen. How to avoid pneumonia after this operation is explained by keeping a dry field during its performance. The next most fatal after-complication, mediastinitis, comes on in a

[1] The Sex Complex, by W. Blair Bell, B.S., M.D.; 1916. London: Baillière, Tindall & Cox; Demi 8vo., pp. 233, illustrated. Price, 12s. 6d.

[1] Operative Surgery of the Nose, Throat and Ear, by Hanau W. Loeb, A.M., M.D., in collaboration with Joseph C. Beck, M.D., R. Bishops Canfield, M.D., George W. Crile, M.D., Eugene A. Crockett, M.D., William H. Haskin, M.D., Robert Levy, M.D., Harris P. Mosher, M.D., George L. Richards, M.D., George E. Shambaugh, M.D., and George B. Wood, M.D.: Vol. I., 1914. St. Louis: C. V. Mosby Company; Australasian Agents: Stirling & Co., Melbourne; Royal 8vo., with 409 illustrations. Price, 52s. (two volumes.)

week or ten days after the operation. The trachea, which has been stitched to the skin, may break away from its moorings during coughing, and, acting like a piston working up and down in the neck, it carries infection to the mediastinum. A preliminary tracheotomy, and the packing of the deep planes of the neck with iodoform gauze along the trachea for five days fixes the latter, and produces an invincible barrier of granulations along the base of the neck. How vagitis is avoided by preliminary packing along one vagus is explained. Reflex inhibition of the heart and respiration when the superior laryngeal nerves are stimulated is completely prevented by $^1/_{100}$ of a grain of atropine, given hypodermically before operation, in addition to the use of novocaine locally.

In Chapter V. Mosher describes the present methods of direct examination and treatment.

Chapter VI., on plastic surgery of the nose and ear, by Joseph C. Beck, will be of special interest to surgeons at the present time, when they may be called upon to remedy war injuries of the region in question. Here we have assembled, described in a terse manner, and illustrated, most of the operations that have been devised for the correction of deformities, congenital or acquired, of the nose and ear. When it is mentioned that 202 illustrations are used in 112 pages of text it will be seen that a great variety of devices is depicted. In the chapter on paraffin injections for the correction of deformities there is useful practical information. It would have been better, instead of describing the manner of injecting hot paraffin, and mentioning some of the drawbacks of this method, to have marked it down as a past procedure, which had done useful service, but which is now superseded by the more manageable and safer method of cold paraffin injection, which, as the author says, is the one in more general use. In the early days of this procedure, before we knew what became of the paraffin in the tissues, when it was believed to remain unchanged as a building-up material, it was naturally thought that a hard paraffin, with a high melting-point, which would retain its shape, was necessary. Now that we know that the paraffin acts as a scaffolding through which connective tissue grows, so that a vital structure is built up, we recognize that a softer paraffin, which can be injected cold, will answer the purpose.

The second volume is to be devoted to the more specialized surgery of the regions under review.

ROYAL ALEXANDRA HOSPITAL FOR CHILDREN.

Babies' Help Fund.

It has been found by experience that the treatment of infants (babies under one year) suffering from gastro-enteritis, which is very prevalent among the poor in the hot months of the year, is not satisfactory. The hospital treatment of these cases, except in exceptional circumstances, has been tried and found wanting. Firstly, the admission of the very severe cases lends itself to a large death rate, which has a depressing and demoralising effect on the nursing staff. Secondly, in the less severe cases, reinfection from other cases is frequent, and in the prolonged cases the monotony of ward life and the absence of mothering, a condition of inanition, from which recovery is difficult, arises. In other words, home nursing is best for these cases. The following scheme is intended to overcome some of the difficulties.

A certain amount of money has been allocated by the Board of this Hospital for the purpose of creating the Fund, the objects of which are as follows:—

1. To assist in any of the ways herein mentioned in the treatment of children from 18 months and under who are suffering from gastro-enteritis, namely:—

(*a*) By providing temporary monetary assistance to the parent of the child who through absence from home on account of his or her employment is unable to devote the necessary time to give the child proper attention.

(*b*) By providing a Day Nurse to attend at the home of home of the parent to assist such parent, who through his or her daily employment is physically unfit to give the child proper attention.

(*c*) By arranging for the board of the mother and her child away from her home in cases where it is considered that such home or its surroundings are likely to prejudice the recovery of such child.

(*d*) Provide a foster mother for the child in cases where the mother is for any reason whatever physically unable to nurse the child during its illness.

2. If after examination any doctor is of opinion that a case of gastro-enteritis is one which deserves the assistance of the Fund, he shall first prescribe for the child and then send it to its home, and may then report the case to the Matron of the District Nursing Association, giving reasons for his opinion, and recommending assistance.

3. Within 24 hours of receiving such report the Matron of the District Nursing Association shall send a nurse to the child's home, who shall make such enquiries as to the parents' means and surroundings as she may think necessary, and report the case to the Matron forthwith.

4. The Matron shall then, at her discretion, send what assistance she thinks necessary or expedient, and may in cases where she deems monetary assistance is required, make such allowance to the parent as she may think fit, but in no case shall such allowance exceed the sum of twenty shillings per week. The Matron shall also determine the period for which such assistance shall continue.

5. The Doctor recommending any case for assistance, or the Hospital of which such Doctor is the resident medical officer, shall continue to be responsible for the medical treatment of the child during its illness.

6. The Matron shall engage and employ lay day nurses and foster mothers at such salary and wage as the Committee shall direct.

7. The Matron shall keep a separate book for the Fund, and shall enter therein the full name of the child receiving assistance, and the full name, address, and occupation of the parents, together with the name of the Doctor recommending assistance, the date of his recommendation, and the date on which such assistance was given, the nature thereof, and the date of termination.

8. The Matron shall also furnish a monthly report to the Hospital, setting out the number of cases assisted by the Fund, with such particulars thereof as the Hospital may direct.

9. The supervision of the scheme has been given into the hands of Dr. W. F. Litchfield, who is responsible for its initiation; he will be assisted by the Secretary of the Hospital.

THE RECRUITING SCHEME.

We have been requested to publish the following appeal:—

Everybody a Volunteer.

Men and Women—Old or Young—City or Country: you are requested to enrol your names as members of the recruiting committee in your district. To do so fill in this:—

To the Hon. Donald Mackinnon,
Director-General of Recruiting.

I volunteer to be a member of the Recruiting Committee in my district.

Name .....

Address .....

.....

.....

Cut out the above and post to
Director-General of Recruiting,
Moore Street,
Sydney.

Every man or woman answering this call will do a service to the Empire. What you will be asked to do:—

1st. Attend a meeting in your district.
2nd. Inform the chairman of the district committee how you can help to win the war.
3rd. Work heartily to obtain recruits.

We regret to record the death of Dr. Charles Fetherstonehaugh, which took place at his residence in Williamstown, Victoria, on January 2, 1917.

The Medical Journal of Australia.

SATURDAY, JANUARY 13, 1917.

Tuberculosis.

The most admirable presentation of statistical and other evidence concerning the spread of tuberculosis in the Commonwealth, which the Federal Departmental Committee has issued, and of which we publish a full summary in another column in the current issue, opens up a number of important problems for further study and speculation. The Committee have endeavoured to discover the incidence of tubercular infections in Australia, and have come to the conclusion that the number of persons infected at one time is not less than 6000. They are certainly justified in fixing this figure as a minimum. Further information is required to ascertain whether the actual number is not very considerably higher. Mention is made in the course of the report of the experience of one of the Commissioners, Professor Sir Harry Allen, in the post-mortem room of the Melbourne Hospital. His verdict is that a large proportion of the patients, who had died from other causes, harboured signs of slight old tubercular lesions in their bodies. It would be valuable information if the approximate percentage of these healed or latent foci could be determined. The prevalence of the disease here is probably markedly less than in Great Britain or Europe. In another part of the report we are reminded that the tubercular incidence among school children in England and Wales reaches as high a rate as 4% in some districts, and is about 1% among the total two million primary school children. It is obviously impossible to determine the frequency of infections in children by physical examination alone. The facts that quite a large proportion of healed or latent lesions discovered after death in young adults have occurred without any clinical manifestations or distinct signs on which an *intra-vitam* diagnosis could be based, and that in the majority of cases of chronic pulmonary disease it is quite impossible to determine the approximate date of the infection suffice to render it necessary for other means to be adopted to discover the extent of the disease among the population. In short clinical manifestations are too little delicate for this purpose. The tuberculin test is, however, as much too delicate as the clinical test is too inexact. It is probable that a positive reaction to a subcutaneous, intradermal or conjunctival application of tuberculin reveals a biological change produced by the tubercle bacilli within the body. Whether that change is inevitably associated with a true infection, or whether the antibodies or biological reaction can be called into effect by local invasion without true infection is not known. Neither is it known under what conditions an infection can take place without the production of clinical manifestations of disease. It is certain that a focus of infection can take place and healing can follow without an obvious disturbance of the functions of the body. These problems have a distinct bearing on the practical issue, with which the Committee deal. They seek to discover every infection and to apply such remedies that no individual shall be a focus of spread of infection. They have collected much suggestive and valuable information, and have dragged some obscure facts out of their hiding places. Every aspect could not be dealt with in the course of one report, nor would it be reasonable to expect every plausible theory to claim the attention of the members of the Committee. There is one aspect of the problem to which we would draw attention, because it may enrich the point of view which the Committee has presented so well. It will be remembered that von Behring enunciated the theory that tubercular infections were largely infantile. Evidence is available to show that in the most susceptible animals known chronic infections never follow an ordinary laboratory infection. But if guinea pigs are infected with attenuated tubercle bacilli in such small quantities that the infection following is sub-lethal, a subsequent infection, after the initial infection has healed or become latent, is followed by a chronic affection, characterized by the formation of caseating foci in the lungs. In other words, the form of tuberculosis which is very common in human beings can be reproduced in the most susceptible animal, if a primary

non-lethal infection can be effected during very early life. It is reasonable to regard human beings as partially immune to tuberculosis. Otherwise the death-rate in infancy would be so great that few would survive to meet the ills associated with later life. Under the present conditions, the practical ubiquity of the tubercle bacillus must be assumed, and it must be admitted that in the absence of a partial immunity every individual would be exposed to a grave danger of acquiring a fatal infection at frequent intervals. We learn from the report that in 1914 there were no less than 145 deaths due to acute, miliary or disseminated tuberculosis, and a further 207 from tubercular meningitis. The exact age distribution of these acute infections, which may be regarded as undoubtedly first infections, is not given, but it would seem that in 169 cases death from tuberculosis occurred in children under 5 years of age. Almost every mortality curve reveals a rise between birth and 5 years of age, and this rise is followed by a fall, which reaches its lowest level somewhere about the age of 6 years. If these deaths represent, as there is reason to believe, a primary acute infection, somewhat analogous to the usual infection in guineapigs, it must follow from the comparatively small number as compared with the total number of children in this age-period, that the average infant under 6 years of age has a sufficiently well developed immunity to overcome the infection, or possibly to remain unharmed by the invasion of tubercle bacilli. The Committee have proved that the later the infections become manifest in life, the more chronic is their course. It is suggested that the explanation for this fact is to be found in the assumption of a relatively mild infection in very early life and a second infection in individuals whose resistance has been raised by their primary infection. A confirmation of this assumption should be within the bounds of practical accomplishment. Nathan Raw suggested many years ago that the immunity possessed by adults was acquired by a previous bovine infection. There is, however, little evidence to support this theory. Möller tried to demonstrate that a complete immunization could be acquired by infection with acid-fast bacilli of the Blindschleich type Marmorek claimed to have immunized guineapigs by means of very young human tubercle bacilli, which were devoid of chitin. Apparently all these suggestions have failed to achieve an artificial raising of the native immunity and of the immunity induced by a non-fatal early infection. Until the nature of the bio-chemical changes associated with the partial protection which determines that adults shall not succomb rapidly from an acute infection as children do, but may struggle with a chronic infection, has been accurately investigated, the main chances of mastering the disease will reside in the protection of susceptible individuals from human sources of infection.

ECONOMY IN DIET.

We have recently called attention to the principles underlying a sound economy in diet, and have shown that a reduction in the food supply to individual members of the community must result in a loss of efficiency, unless this reduction is controlled by physiological measurements and is not in fact a reduction in caloric values. While we advocated that the control should be based on physiological measurements, we recognized that it is useless for practical purposes to clothe advice in scientific language and to leave it to persons unversed in scientific practice to work out the form which an economical diet should take. It is significant that Surgeon-General Sir Alfred Keogh, Director-General of Medical Forces in England, has been reported to have said, when speaking as Rector of the Imperial College of Science and Technology, South Kensington, that cabinet ministers and great administrators were so ignorant of the elementary facts of nature and science that when he was working with them he found it difficult to get low enough in discussing scientific questions to reach their level. If those in authority, who have had the advantage of education and tradition, fail to grasp scientific thought and expression, how can we expect the masses to follow a discussion concerning metabolic processes and the measurements of food-stuffs expressed as heat units on combustion?

We have received a brochure entitled *L'Alimentation rationnelle à très bon marché*, composed by Dr.

Manheimer Gommès, with a preface by Professor M. E. Fuster, the chief Professor at the *Collège de France*, in which a plea for a rational, cheap diet for the poor people of France is advocated in language which the people could not possibly understand. M. Fuster justifies the publication with an appeal, nay, a cry for help, for the poor, the widows of fallen soldiers, for the unemployed, for the wounded and for the aged. He recognizes their utter incapability of paying for the necessaries of life, and sees in the wan and haggard faces of their children the prospects of decay in the next generation. He maintains that distress in Germany notwithstanding the blockade, and the food difficulties in England notwithstanding the continuation of extravagance do not approach in seriousness the condition in France, because the governments of their foes and allies alike are grappling the food problem and establishing a control, which has a protective effect on the well-being of the poor. He decries the fatal attitude of suffering without a murmur under high prices, but advocates an attempt to teach the poor how to select those nutriments which are still cheap, and which are able to cover the physiological needs of the individual. From Dr. Gommès we learn some home truths, such as that meat is not an essential to life and health, and that by careful selection a diet supplying between 1980 and 2880 calories can be obtained in France to-day for considerably less than one frank. But he leaves his readers to make their calculations of the quantities of proteins, carbohydrates and fats which would yield on combustion the necessary number of calories. While he warns his reader that these necessary calories may not be derived exclusively from any one of the three chief constituents of food, he holds out a tempting bait by asserting that 100 grammes of lard yield 855 calories and 100 grammes of butter yield 790 calories. He teaches that horse flesh is richer and less indigestible than beef, and suggests that horse tongue is a cheap and particularly advantageous dainty. Horses are stated to be free from both tuberculosis and tænia. From the material contained in the brochure a useful popular guide to cheap diets could be compiled. The presentation should be made attractive and the word calories should be avoided. We are inclined to advise the exclusion of all argument. The leaflet or calendar might contain a collection of daily diets sufficient for men on full or half work, which every citizen could afford to buy, with the cost attached. But the first essential must be plain, unequivocal language, and practical suggestions.

GALYL AND OTHER SALVARSAN SUBSTITUTES.

Our attention has been drawn to the doubt which exists as to the relative therapeutic value of the various substitutes which have been introduced since August, 1914, for salvarsan and neo-salvarsan. In determining the value of any parasiticide in use in the treatment of disease two methods are commonly employed. The first is only reliable when the affection to be treated is an acute one and characterized by a definite course. In this case a cutting short of the disease and a reduction of its mortality may be translated into evidence of efficacy. This is by clinical trial. The second is the biological method, and is applicable in all cases in which the infecting organism and its products are known and the antibody production has been studied. It may be said generally that the power of a medicament to cure syphilis can only be measured clinically after years have elapsed and thousands of patients have been subjected to its influence. Mercury was discovered as an antisyphilitic remedy by accident, and it was used for years before the effect of the metal on the infecting organism was understood, even roughly. When Ehrlich undertook his organized search for a substance which could sterilize the animal body of trypanosomes, he utilized a biological test to assure himself of effective action. Salvarsan was found to be an efficient agent to kill spirochætes, but its power to cure syphilis had to be estimated firstly by its action in altering the complement deflecting power of syphilitic serum, secondly by its action in removing living spirochætes from primary syphilitic lesions, and thirdly by its action in clearing up clinical manifestations. Later it was found that the curative power could be demonstrated in a few cases in which re-infection took place after treatment. The majority of observers have reported on antisyphilitic remedies on the basis of the course of the disease as controlled by the Wassermann reaction. In his excellent article on the substitutes for German salvarsan (*The Medical Journal of Australia*, August 19, 1914, p. 129), Dr. Molesworth has pointed out that the chemical and therapeutic differences between arseno-benzol, kharsivan and salvarsan are so slight that they can scarcely be detected. He is inclined to regard the threapeutic effects of galyl and neo-salvarsan as lower than those of the three substances mentioned. It appears that there are distinct chemical differences between galyl and neo-salvarsan. Galyl contains 35.3% of arsenic, while neo-salvarsan contains 31.2%. Since the dose usually given is 0.4

gramme of the former and 0.9 gramme of the latter, the amount of arsenic, on which the parasiticidal action is supposed to be based, is less than one half when the former is given. Neo-salvarsan has an amino radicle, while galyl has none; galyl has six hydroxyl radicles as compared with two in the neo-salvarsan molecule. Again, McDonagh is inclined to attribute the therapeutic action of many of the newer remedies to the presence of benzene rings. The galyl molecule is built up on four of these rings. We would therefore be inclined to the opinion that the reason why galyl has been found to be less active in the treatment of syphilis than some of the other substitutes is contained in the fact that the dose, 0.4 gramme, has been compared with 0.4 gramme of arseno-benzol, 0.4 gramme of kharsivan, or 0.9 gramme of neo-salvarsan. S. F. Dudley suggests that if more frequent doses of galyl were given, its therapeutic effect would be found to be at least as good as that of neo-salvarsan.

WAR PENSIONS.

Our Canadian Correspondent, in the very interesting letter published in this week's issue, deals with the pensioning of disabled soldiers, as arranged by the Government of the Dominion. In order to enhance the interest of the paragraph in question, it may be advisable to remind our readers of the rates payable in the Commonwealth. The information given in Part I. of the *War Pensions Act*, 1914-1915, requires some translation before it can be compared with the figures quoted for Canadian soldiers. In the following examples the dollar is taken to be worth 4s. 2d.

In Canada, a totally disabled private, with a wife and three children, would receive £100 per annum as pension and an additional £45 per annum in respect of his children, as long as the boys are under 16 and the girls are under 17 years of age. In Australia, the private, who received 6s. a day while on active service, would receive a pension of £78 per annum in the case of total disablement, and his wife could claim a pension of £39. They would receive, in addition, £58 10s. for their three children, so that the total pensions payable would amount to £175 10s.

In Canada, a lieutenant without dependants is entitled to £150 per annum in the event of total disability. In Australia an officer who was drawing 17s. 6d. a day as pay, is entitled to a pension in the same eventuality of £104. But if the officer is married and has two children he would receive £180 in Canada and £201 10s. in Australia. In the event of a helpless soldier not having anyone to attend to him, he may be granted an extra £52 per annum in Canada, or £26 in Australia, to enable him to engage the services of an attendant.

Widows of soldiers killed on active service receive 80% of the pensions payable to wholly disabled men in Canada. The widow of a private soldier who has been killed in action would receive £80, and if she had three children an additional £45, or £125 in all. In Australia the widow would receive £52 as pension for herself and £58 10s. for her children, which makes £110 10s. a year in all.

In Canada the widow of a lieutenant who has been killed is entitled to £120 and £30 in respect of two children. In Australia she is entitled to £91 and £45 10s. for the two children. She thus receives £14 10s. a year less than her sister in Canada.

Orphans of soldiers killed while serving their country receive £30 a year in Canada, irrespective of their age, while in Australia an orphan under 10 years of age receives £26, one between 10 and 14 years £32 10s., and one between 14 and 16 years receives £39 per annum.

Vital Statistics.

SYDNEY AND NEWCASTLE.

The report of the Government Statistician on the returns of births and deaths registered in Sydney and Newcastle during the month of November, 1916, has been published in the *New South Wales Government Gazette* of December 15, 1916.

Sydney.

The number of births registered in the metropolis was 1,637. There were 826 males and 801 females born. This number compares unfavourably with that representing the average for November during the previous five years. The birth-rate is equivalent to an annual rate of 25.74, whereas in the equivalent birth-rate for the corresponding month averaged 29.62 since 1911. The number of illegitimate births was 109, while the average number registered in November during the preceding five years was 134. It will thus be seen that the reduction is relatively greater among the illegitimate births than among the total number of births. The illegitimate birth-rate was 1.71. It is pointed out that 15% of the births took place in hospitals or other public institutions.

The number of deaths registered was 621. In 335 cases the deceased were males and 285 were females. This number is equivalent to an annual death-rate of 9.77 per 1,000 of population. The average for November during the five preceding years was 14% above this figure. There were 93 deaths of infants under one year of age, which is equivalent to an infantile mortality of 57 per 1,000 births. The Statistician points out that this rate is extremely satisfactory, being no less than 39% below the average for the corresponding month of the preceding five years. Six persons of 90, one of 91, and one of 94 years died. It is stated that 42% of the deaths occurred in hospitals and other public institutions. There were 27 deaths in the mental hospitals and 14 in the maternity hospitals. From the table giving the monthly rates and meteorological returns, it appears that the highest death-rates were recorded in November and December, 1915, and June, July, August and September, 1916. The highest temperatures were recorded in January and February, and the lowest in July. There was apparently no relation between death-rate and total rainfall for the various months.

Diseases of the cardio-vascular system caused 131 deaths, including 87 from chronic disease of the heart and 21 from cerebral hæmorrhage. Deaths from these causes were more numerous in the month under review than in November since the year 1907. Of the infective processes, tuberculosis comes first, with 36 deaths. In 34 instances the disease was pulmonary. The number of deaths from tuberculosis of the lung has varied between 24 and 43 in the month of November during the last ten years. Diarrhœa and enteritis are second on the list, with 34. In November of 1915, when the mean temperature was 4.1° higher, the number of deaths from this condition was 197. Apparently the relatively cool season accounted for an unusually low summer diarrhœa mortality. The pneumonias caused 34 deaths. In 25 instances the infection was of the croupous

variety, while in nine it was a broncho-pneumonia. The number of deaths from pneumonia in November was lowest in 1908 (16) and highest in 1915 (50). Next on the list comes pertussis, of which there were 11 fatal cases. During the corresponding month of the ten previous years the deaths from this disease have varied widely, none having been recorded in 1908 and 1909, while 16 were registered in 1910. There were seven deaths from cerebro-spinal meningitis, five from diphtheria, four each from scarlatina and acute nephritis, three each from enteric fever, acute endocarditis and acute bronchitis, two each from influenza and syphilis, and one each from morbilli, dysentery, septicæmia, anthrax, tetanus, encephalitis and simple meningitis.

There were 60 deaths from cancer, including 27 from malignant disease of the stomach and liver, 12 from tumours of the female genital organs, eight from tumours of the intestine, four from tumours of the mouth, and two from tumours of the breast. There were eight deaths from diabetes, one from Addison's disease, and one from leucæmia. There were 37 deaths from Bright's disease.

Notwithstanding the fact that 14 deaths occurred in maternity hospitals, only five deaths from puerperal septicæmia were registered in the whole State during the month, and five other deaths variously ascribed to puerperal albuminuria, puerperal hæmorrhage, *phlegmasia albadomens* and "accidents of pregnancy."

Newcastle.

The number of births registered in the Newcastle district during the month of November, 1916, was 197. The birth-rate was therefore equivalent to 40.2. In November, 1908, it was 31.2, and in November, 1912, it was 49.8. There were nine illegitimate children, which is equivalent to an annual illegitimate birth-rate of 1.8.

During the month 68 deaths were registered, 30 being of males and 38 of females. Of this number, 22 were under one year of age, and 13 were over 64. The equivalent annual death-rate works out at 13.92 per 1,000 of population, while the infantile death-rate was 112 per 1,000 births. Of the causes of death, diarrhœa and enteritis take the most prominent position. There were 13 deaths entered in this category. There were five deaths from pneumonia, four from broncho-pneumonia, three from pertussis, three from tuberculosis, and one each from enteric fever, influenza, dysentery, septicæmia, simple meningitis and acute bronchitis. Six deaths were due to malignant neoplasms. Diseases of the cardio-vascular system caused only six deaths.

SOUTH AUSTRALIA.

During the month of November, 1916, 929 births were registered in the State of South Australia. Calculated on an estimated population of 439,660, the birth-rate for the month is equivalent to an annual rate of 25.32. This rate is somewhat higher than that of November, 1915. The average rate, however, for November since 1911 is equivalent to an annual rate of 27.84 per 1,000 of population.

The number of deaths registered in the month was 379. Notwithstanding the fact that there were 417 deaths in November of 1914, the average number of deaths for the corresponding month since 1911 was lower than that of the month under review. It was 366.

The death-rate was equivalent to an annual rate of 10.32. There were 53 deaths of infants under one year of age. The infantile mortality was therefore 57 per 1,000 births. Of the 379 deaths 154 were of persons of 60 years or over, and of these 34 were of persons of 80 years or over.

There were 69 deaths due to diseases of the cardio-vascular system. Included in this category are 40 deaths from organic diseases of the heart, and 26 from cerebral hæmorrhage. Of the infective processes tuberculosis was the cause of 31 deaths; in 25 instances the disease was localized in the lungs. Pneumonia caused 28 deaths, including five of infants under one year of age. Pertussis caused 16 deaths, diphtheria 12, diarrhœa and enteritis 8, bronchitis 8, meningitis 7, enteric fever 4, influenza 3, acute nephritis 3, morbilli 2, and septicæmia and acute articular rheumatism one each. There were 27 deaths ascribed to malignant tumours, and 19 to Bright's disease. Only one death due to puerperal septicæmia was reported during the month.

The returns of births and deaths registered in the city of Adelaide reveal that 98 infants were born within the city during the month of November, 1916. The crude birth-rate would therefore be 26.88 per 1,000 of population. The number of births is approximately 8% lower than the average for the preceding five years.

Excluding deaths of persons not usually resident in the city which were notified from public institutions there were 64 deaths during the month. The corrected death-rate, expressed as an annual rate, was therefore 17.52. The infantile mortality was 102 per 1,000 births. Of the 64 deaths five were due to diphtheria, three to pulmonary tuberculosis, two to pertussis, one to morbilli, and one to enteric fever.

Public Health.

THE HEALTH OF VICTORIA.

The following notifications have been received by the Department of Public Health, Victoria, during the week ending December 31, 1916:—

	Metropolitan. Cs.	Dths.	Rest of State. Cs.	Dths.	Total. Cs.	Dths.
Diphtheria	27	4	17	2	44	6
Scarlatina	9	1	8	0	17	1
Enteric Fever	3	0	4	1	7	1
Pulmonary Tuberculosis	18	8	9	6	27	14
Cerebro-spinal Meningitis	4	—	2	—	6	—

INFECTIVE DISEASES IN QUEENSLAND.

The following notifications have been received by the Department of Public Health, Queensland, during the fortnight ending December 30, 1916:—

Disease.	No. of Cases.
Pulmonary Tuberculosis	19
Erysipelas	6
Scarlatina	21
Diphtheria	59
Enteric Fever	46
Cerebro-spinal Meningitis	4
Puerperal Fever	2
Ankylostomiasis	3
Malaria	6

INFECTIVE DISEASES IN WESTERN AUSTRALIA.

The following notifications have been received by the Department of Public Health, Western Australia, for the week ending December 16, 1916:—

Disease.	Metropolitan. Cases.	Rest of State. Cases.	Totals. Cases.
Enteric Fever	7	2	9
Diphtheria	7	12	19
Scarlatina	3	0	3
Pulmonary Tuberculosis	11	2	13
Erysipelas	1	0	1
Septicæmia	1	0	1
Cerebro-Spinal Meningitis	0	1	1

The following notifications have been received by the Department of Public Health, Western Australia, during the week ending December 23, 1916:—

	Metropolitan. Cases.	Rest of State. Cases.	Total. Cases.
Enteric Fever	4	4	8
Diphtheria	10	5	15
Pulmonary Tuberculosis	6	2	8
Cerebro-spinal Meningitis	4	0	4

We understand that the regulations necessary for the carrying into effect of the "Venereal Diseases Act," Victoria, are in the course of being drawn up, and will shortly be submitted to His Excellency the Governor for approval. The Royal Assent to the Act was given after Parliament had risen late in December.

Abstracts from Current Medical Literature.

PATHOLOGY.

(8) Trematode Diseases in China.

E. L. Atkinson describes a journey to the Far East in company with Dr. R. T. Leiper, to investigate the spread of trematode diseases, with special reference to *Schistosoma japonica* (*Journ. Roy. Naval Med. Service*, October, 1916). This expedition was undertaken in view of the growing importance of schistosomiasis to the officers and men of the Royal Navy on the Yangtse River. A collection of molluscs was made within the triangle bounded by Soochow, Kashing and Shanghai, from a large Chinese houseboat which served as a home and laboratory for the expedition. The molluscs were used to acquire information as to the cercaria, redia and sporocysts with which the region abounded. At Kashing some active cercaria were found carrying sporocysts which might be the infecting agents of *Schistosoma*. From Kashing a journey was made to Ning-po to study *Fasciolopsis buski*, which is very prevalent in this district. From prawns they obtained an encysted cercaria the characteristics of which suggested the prawns to be the secondary hosts of *Fasciolopsis*. The Chinese eat these prawns par-boiled and occasionally raw. Infection is thus readily conveyed. The investigators have also been able to obtain *Fasciolopsis rathouisi* and *F. goddardi* alive, and to observe that the difference in size between them is due only to the condition at the time of mounting. They are both armed with spines on the body of the superficial area. These species are thus identical. Dogs infected with schistosoma ova were examined. Such dogs were used at Hankow to infect suspected molluscs. During a visit to Japan, Dr. Leiper found a new mollusc, *Katamaya nosophora*, which proved to be the secondary host for the infection of schistosomiasis in Japan. These molluscs had a marked attraction for the cercaria of the *Schistosoma*, so that when the mollusc was placed in water containing the cercaria, these cercaria swarmed around the snail like a milky cloud. Infection was conveyed to mice by feeding them on cercaria freed from the sporocysts present in the liver of the snail. The redia stage does not occur in this cycle. The cercaria has a bifid tail and no pharynx. It is provided with spines and with both an oral and a ventral sucker. The cercaria are contained in large sacs with a knob at one end. These are sporocysts. The sporocysts are found in the liver of the snail. The investigators were not able to find this mollusc in China. A similar cercaria was found at Kashing in a species of *Lymnaeus*. The infection of molluscs, dogs and men appears to take place in the paddy fields. Infected molluscs are carried by means of the water wheels to the fields, where the soil becomes infected. The eggs of the parasite do not live long in the soil, as they degenerate after a short time, especially in the absence of water.

(9) Fallacies in the Wassermann Test.

H. C. Brown and K. R. K. Iyengar (*Indian Journ. Med. Research*, October, 1916) have studied certain fallacies in the performance of the Wassermann test, which are due to alterations in the strength of the complement. They have shown that the amount of complement in the freshly-drawn serum of many persons is variable, and that the degree of variation is such that the value of the test is vitiated. For this purpose they have examined the freshly-drawn sera of 204 persons. They have also studied the deterioration in the amount of complement produced on standing at different temperatures and the loss of activity occasioned by exposure to light for various intervals of time. They have used these sera in performing different modifications of the Wassermann test, and have found that the result was erroneous in 4% of the tests. They point out that certain modifications should not be used for material which has been sent through the post, and which has been exposed to uncertain temperatures for several hours.

(10) Cultivation of B. tuberculosis.

M. B. Soparkar has succeeded in growing tubercle bacilli by direct culture from sputum, both fresh, old and decomposed, from pleuritic fluid when no bacilli could be detected microscopically, and when inoculation of the fluid into animals failed to reveal the cause of the pleurisy, and from post-mortem material derived from human and animal sources (*Indian Journ. Med. Research*, July, 1916). The cultivation of the bacilli is needed to study the biological features of the organism, and to distinguish the human, bovine and avian strains of the organism from one another. It has been customary to inoculate suspected material into guinea-pigs or other susceptible animals, to await the development of tuberculosis, to sacrifice the infected animal, to make an autopsy under aseptic precautions and to cultivate the bacillus from the material obtained in this way. The direct cultivation of the bacilli is difficult, since the material containing the organisms must be treated initially to isolate the tubercle germs, and since the growth in the culture tube is slow. In sputum the bacilli are mixed with many other microbes, which grow readily, and they are also entangled in viscid mucus. The slow growth gives time for moulds to grow through the plugs into the tubes, and permits of sufficient evaporation from the tube to alter the characters of the medium. The investigator has overcome all these troubles. He has liquefied the material containing the tubercle bacilli by means of 5% caustic soda. This alkali also destroys all the bacteria present before killing the tubercle bacilli. It is thus possible to disinfect the material employed for cultivation. The action of the alkali is instantly stopped by neutralization with hydrochloric acid. As sodium chloride is the product of this action and is harmless there is no need to wash the deposit obtained with the centrifuge after liquefaction. The loss of bacilli, which is so great a defect of the "antiformin" method, is avoided. In practice, the suspected material was mixed with the soda solution. Every hour a quantity was removed, neutralized with acid, and spun in the centrifuge. The deposit was used to inoculate the tubes of egg medium. This was done hourly for twenty-four hours. After a time, the whole of the adventitious organisms were killed, while the tubercle bacilli remained alive. The growth of moulds into the tubes was prevented by soaking the cotton wool used to plug the tubes in 1 in 1,000 mercuric perchloride solution. The wool was dried and used in the same way as untreated wool. Much trouble was taken to control the evaporation of water from the surface of the medium. After trying many methods, the investigator fitted the tubes with corks waxed in paraffin. A hole of 2 mm. bore was made through the cork. This permits of the entrance of sufficient oxygen, while it diminishes greatly the loss of water. The tubercle bacilli grew well on simple egg and water, on glycerine egg medium and on Petroff's gentian violet and veal broth egg medium. The colonies were visible in 10 to 20 days. Pigmentation was sometimes well developed in the colonies of the human strain.

(11) Vaccination Against Enteric Fever and Cholera.

A. Fedorovitch gives some results of mixed vaccination against cholera and typhoid fever (*C. R. Soc. Biol., Paris*, June 17, 1916). The vaccines employed have been heated emulsions of the bacteria. The typhoid vaccine has contained 250,000,000 germs in 0.5 c.cm., and the vaccine of cholera vibrios 500 millions of organisms in the same quantity. In some cases the vaccines have been mixed before injection, while in other cases the syringe has been detached from the needle after injecting one vaccine, and the second vaccine has been passed through the same needle, which has not been removed from the skin. The first series consisted of 453 persons, who were injected with the mixed vaccines on three occasions at weekly intervals. The injections were controlled with agglutinative tests. After one injection, 26.9% gave negative results; after two injections 10% were still negative, but after three injections the sera in all cases agglutinated at 1 in 800 for typhoid and 1 in 200 for cholera. In the second series 25,000 persons were injected with the mixed vaccines, and at the first injection were also vaccinated against small-pox. The reactions were not severe, only 7.5% showing a raised temperature six hours later. The mixed vaccines were also

employed on a third series of 14,000 persons, and on a fourth series of almost 100,000 persons. In the series with the 14,000 persons the severe reactions were in 15%, while in the series with the large number they amounted to only 4.5%. In three of the series the percentage of severe reactions has been less than in series in which the vaccinations have been done separately.

PÆDIATRICS.

(12) Schick's Test.

Employing a diphtheria toxin, apparently uniform in quality, Cowie (*Amer. Journ. of Dis. of Children*, September, 1916) injected it intra-dermally in a series of 81 cases taken at random. The reactions, which were positive in 50 instances, appeared in from one to five days, the earlier ones disappearing more slowly than the later. The reactions varied in intensity, in susceptible persons, directly as the strength of the dilution used. Negative reactions were encountered very frequently in infants under five months, but quite a large percentage at this age gave positive results. In families, all the children reacted usually in the same way, but while mother and infant were usually in accord, the latter would frequently give a negative reaction and the former a positive. As regards the influence of season on the reaction, it will probably be found that negative reactions are more numerous in the summer months, when the disease diphtheria is less active and fatal. In 34 of his positive cases the author employed successive intradermal injections of varying strengths at intervals of five, twelve and seven days. In these, the time of the reaction was unchanged in nine cases, hastened in twenty cases, delayed in no instance, and completely suppressed in five instances. Of the patients who originally reacted negatively to injections of the toxin, sixteen were given successive injections, with the result that fourteen remained and two gave slightly positive reactions with the second injection. The following conclusions are drawn: (1) Successive intradermal injections of very dilute solutions of diphtheria toxin, when given at intervals varying from five to twelve days, provoke the formation of antibodies, and in those cases already exhibiting a certain degree of immunity, bring about a definite immunity, as recognized by the intradermal test. (2) An opinion of the degree of natural immunity may be obtained from the time of the first appearance and from the character of the primary intradermal reaction. An early primary reaction of ordinary degree indicates absence or low degree of immunity. A late appearing primary reaction indicates that such a person has a greater degree of immunity than one who reacts early. (3) The development of immunity induced by means of infinitesimally small successive doses of diphtheria toxin may be recognized by a hastening in the time of the appearance of the reaction and a diminishing of the size of the lesion. (4) In those cases in which the size and intensity of the reaction were reduced by successive injections of toxin, the time of appearance of the reaction was hastened in the large majority of cases observed. The greatest change toward a negative reaction occurred in those cases which gave a primary reaction on the third and fourth day. (5) A primary reacting case which does not change its character after a second, third or fourth intradermal injection may be considered one without any reacting bodies, and, necessarily, one in which diphtheria would be easily induced. (6) The degree of immunity induced by such small doses of toxins as are represented by 0.1 c.cm. of highly diluted toxin seems to be very slight, and cannot be compared with the results obtained by the use of toxin-antitoxin mixtures. Solutions carrying sufficient toxin to induce immunity, when given intradermally, are not well borne by the patient.

(13) Epidemiology of Pertussis.

Luttinger (*Amer. Journ. of Dis. of Children*, September, 1916) summarizes the results obtained by the investigations of the Research Laboratory, New York, into the epidemiology of pertussis, as follows: Pertussis is a very prevalent disease in New York City; probably only a tenth of all cases are notified. About 80% of all cases and 97% of all deaths occur in children under five years of age. Fifty per cent. of the patients are in those under two years of age, and over 50% of all deaths are in children under one year of age. The incidence of pertussis among girls, as well as the number of deaths, is constantly higher than among boys, the proportion of both morbidity and mortality being about 44% for boys and 56% for girls. In contradistinction to other respiratory diseases, pertussis seems to be most prevalent in the spring and summer months, and the mortality curve reaches its highest point in August, showing a similarity to the diarrhœal diseases. The larger number of deaths, however, are due to pertussis pneumonia. Poor surroundings, congestion, lack of fresh air and proper care, due to the guardian's precarious economic status, seem to have a determining effect on both the morbidity and mortality of pertussis. The actual case mortality in whooping-cough is difficult to estimate, owing to the incompleteness of the returns. It is probably about 1%. The death-rate per 100,000 is about 7. It has been steadily decreasing for the last 50 years, having been as high as 58.82 in 1872 and as low as 4.71 in 1908. Whooping-cough is transmitted by direct contact and in nearly 60% of cases the source of infection is given as coming from a neighbour. Relatives and friends, schools, nurseries, ferries, etc., are other sources of infection. Moving-picture shows and public conveyances seem to be important factors in the dissemination of the disease. Adult pertussis carriers probably have been disseminating the disease and have remained unrecognized, owing to the atypical form in which it manifests itself. The author states that pertussis vaccines, when given early, have continued to give good curative and prophylactic results. The very small number of deaths under vaccine treatment, and the vast numbers who apply for treatment, indicate a favourable and possibly tangible influence of the specific treatment on the further epidemiology of the disease. As regards prophylaxis, the writer considers that both the laity and medical practitioners themselves should be educated as to the prevalence and fatality of the disease, and that the latter should be urged to report all cases and to treat with specific vaccines all contacts and early cases. Picture-shows and other public meeting-places should be forced to exclude, as far as possible, all children with paroxysmal coughs. Pertussis cases should be isolated during the first two weeks of the disease. Whooping-cough clinics, summer-camps and suitably constructed hospitals should be established in sufficient numbers to cope with the yearly epidemic.

(14) Scarlet Fever, Morbidity and Fatality.

From the study of the figures obtained from Board of Health notifications of cases and deaths for scarlet fever, Donnally (*Amer. Journ. of Dis. of Children*, September, 1916) draws the following conclusions. Records of over seven million cases were collected, but, of these, for various reasons, only about two millions were used. (1) Periodicity in the appearance of epidemics of scarlet fever cannot be made out. (2) The morbidity and mortality rates of scarlet fever seem to be independent of one another. (3) A decline in the morbidity has not generally been made out. (4) Where notification has been of longest duration and most thorough (Norway) a reduction in the incidence of scarlet fever has been observed. (5) Season itself does not influence the morbidity. (6) The sexes show equal susceptibility. Under five years of age boys are more susceptible, while between five and fifteen years of age girls are more susceptible than boys. (7) About half of the cases occur in children between three and eight years, and 90% in those under fifteen years of age. (8) About two children out of three between three and eight years of age contract scarlet fever, if exposed to it in their homes, if they have not previously had it. (9) Scarlet fever appears to be a milder disease than formerly. (10) Different epidemics may vary greatly in virulence. (11) Scarlet fever has been regularly more prevalent in some places than in others. (12) It has been consistently attended by greater fatality in some places than in others. (13) At all ages males succumb more readily to it than females. (14) Case fatality is lowest in those about 10 to 15 years of age. The younger the child the less his chance of recovery. (15) About 90% of deaths from scarlet fever occur in those under 10 years of age.

TUBERCULOSIS.

The Departmental Committee appointed to enquire into the causes of death and invalidity in the Commonwealth have issued a report on tuberculosis. This report occupies 40 pages of printed matter, and has appended to it seven graphs. It has obviously been compiled with great care, and information has been collected from a large number of sources and utilized with some skill. The first part deals with statistical matter. The second chapter comprises an ætiological discussion of the disease, and includes a description of the means adopted in various parts of the world to combat it, while the third and last consists of a summary of those means which the Committee recommend for adoption in Australia.

The Extent of Tuberculosis in the Commonwealth.

Since no data have been collected from which the incidence of tuberculosis at different periods in Australia can be calculated directly, the Committee have been forced to attack the problem inductively. They start with the mortality figures: In the period 1901-1909 the death-rate from pulmonary tuberculosis per 100,000 of population was 117 in England and Wales, and that from other forms of tuberculosis was 50. In 1913 the death-rates were 98 and 35 respectively. The death-rate in Australia from all forms of tuberculosis was 101 in 1905 and 73 in 1914. In New Zealand the death-rate was 77.9 in 1905 and 66.7 in 1914. It thus appears that the mortality from tuberculosis was 40.6% lower in Australia than in England and Wales in 1913, and 42.8% lower in New Zealand than in England and Wales. The fall in the Australian rate between 1905 and 1914 was 27.7%, while the fall in New Zealand was only 14.4%. It must, however, be pointed out that the death-rate in New Zealand in 1913 was 76, which is only 2.6% lower than the 1905 rate. An analysis of the death-rate from pulmonary and other forms of tuberculosis in the various States of Australia for the year 1914 reveals some interesting information.

State.	Death-rate per 100,000. Pulmonary.	Other Forms.	Total.
New South Wales	63.6	9.7	73.3
Victoria	72.4	14.0	86.4
Queensland	42.8	6.8	49.6
South Australia	63.6	12.9	76.5
Western Australia	70.1	7.4	77.5
Tasmania	44.8	13.1	57.9

It will be noted that the mortality in Victoria was 174.2% higher than that of Queensland.

The Committee proceed by sifting the records of the individual States. Starting with New South Wales, they find that the mortality has fallen from 153 in 1875 to 72 in 1914. The pulmonary tuberculosis death-rate was diminished in the same period from 105 to 63, while that from other forms of tuberculosis has diminished from 48 to 9. Since 1894 the metropolitan death-rate from pulmonary tuberculosis has fallen from 102.6 to 58.3, while the extra-metropolitan rate has only moved from 69.9 to 67.1. In Victoria the death-rate from all forms of the disease has fallen from 159 in 1870 to 86; that from pulmonary disease has fallen from 124 to 72, and that from other forms from 35 to 14. The fall in Melbourne and its suburbs since 1891 to 1914 has been from 167 to 89; the fall in Bendigo and its suburbs has been from 241 to 118. These figures refer to pulmonary tuberculosis. It is pointed out that while the death-rate from pulmonary tuberculosis in Sydney is considerably lower than that in Melbourne, the extra-metropolitan figures in New South Wales are considerably higher than those of Victoria. The figures for all forms of tuberculosis for Queensland reveal a fall from 134 in 1873 to 48 in 1914. The rate for pulmonary tuberculosis in the former year was 108, and in the latter was 42. The figures for the other forms of tuberculosis were 26 and 5 respectively. The fall is more striking when the rates in 1885 are chosen. The death-rate from all forms of tuberculosis in that year was 262, so that in the course of 30 years the drop was from 262 to 48. This is the more extraordinary since the death-rate in 1914 was higher in Brisbane than it was in Sydney. In South Australia the death-rate from all forms of tuberculosis was 114 in 1870; in 1882 it was 138, and in 1914 it was 75. The figures for pulmonary disease for the three years mentioned were 97, 117 and 63, while those for the other forms of tuberculosis were 17, 21 and 12. In Western Australia a fall from 114 in 1888 for all forms of tuberculosis to 77 in 1914, appears to be made up of a fall in the pulmonary rates from 93 to 70 and in the rates of the other forms of disease from 11 to 7. In 1914 the pulmonary tuberculosis death-rate was 91 in the metropolitan district, 90 in the central and eastern (mining) district, 61 in the north and north-west and 25 in the agricultural south-western district. The Tasmania records show a death-rate from all forms of tuberculosis of 103 in 1881, of 115 in 1885 and of 57 in 1914. The death-rate from pulmonary tuberculosis in 1881 was 98; in 1885 it was 111, and in 1914 it was 44. The death-rate from the other forms of tuberculosis was 5 in 1881 and 13 in 1914.

Two means exist for gaining some information of tuberculosis among the living. The first is through the records of the pensions, and the second is through the limited figures of notified cases. Between November 18, 1910, and August 27, 1915, pensions were paid to 3,381 persons on account of invalidity caused by tuberculosis. Of this number, 2,532 persons were suffering from pulmonary tuberculosis.

In the year 1913 656 cases of pulmonary tuberculosis were notified in Sydney. Pulmonary tuberculosis has been a notifiable disease throughout Victoria since 1908. The number of cases reported annually since that year until 1915 has varied between 1,283 and 1,509. It appears that during a period of two and a half years ending June, 1911, the proportion of cases notified per 10,000 exceeded the death-rate by 38% in the metropolis, by 17% in Ballarat, by 45% in Bendigo, by 42% in Geelong and by 18% in the whole State. It was lower in the country districts. Pulmonary tuberculosis has been notifiable in Queensland since July 1, 1905. The number of cases reported each year has varied between 261 and 474. Expressed as a report rate per 100,000 of population, for the purpose of comparison with the death-rate, it has varied between 47.9 and 75.2. In the year ending June 30, 1914, it was 69.6. The disease has been notifiable since 1898 in South Australia. The actual numbers notified annually have varied between 216 and 667, and the rates been 59.8 (1900) and 153.8 (1913). The figures given for Western Australia since 1909 show an annual record between 190 and 429, while the rates have increased from 71.7 to 140.1 (1912), and have decreased since to 109.2. The Tasmanian records are limited to three years, when 268, 257 and 231 cases have been notified. The rate for 1913 was 133.3, and for 1914 it was 127.8.

From the available data it is shown that information has been collected regarding 3,049 cases of pulmonary tuberculosis in the Commonwealth in the year 1914. The Committee point out that these notifications were received in the five States, Victoria, South Australia, Queensland, Tasmania and Western Australia, and they therefore estimate a proportionate number for the whole of the Commonwealth, bringing the number up to 4,901. They are therefore disposed to the belief that the number of living persons suffering from pulmonary tuberculosis in Australia in 1914 was not less than 6,000.

Age Distribution.

In order to obtain information in regard to the age and sex distribution of pulmonary and other forms of tuberculosis, the Committee have examined the statistical returns in some detail. Dealing first with pulmonary disease, they show that of a total number of deaths of 3,111, 36 were of children under 5 years of age, 154 were of persons between 15 and 19 years of age, and 350 were of persons between 20 and 24 years of age, 434 were of persons between 25 and 29 years of age, and 760 were of persons between 30 and 39 years of age. The frequency decreased from this age gradually at first and after 55 years rapidly. There were 463 deaths from the other forms of tuberculosis, and of these 159 were of children under five years of age. The frequency of deaths from the other forms of tuberculosis decreased rapidly after this age, although a few

cases in old people were recorded. The Committee set up a table giving the average mortality rate from all forms of tuberculosis per 100,000 persons living at each age period. The table is for 1911.

Age Period.	Males.	Females.	Total.
Under 5	48	43	46
5- 9	13	13	13
10-14	14	20	17
15-19	37	68	52
20-24	73	113	93
25-29	111	135	123
30-34	126	121	123
35-39	140	120	130
40-44	148	103	125
45-49	168	94	131
50-54	171	73	122
55-59	185	82	133
60-64	179	91	135
65-69	157	91	124
70-74	137	73	105
75-79	74	41	57
80 and over	41	39	40

They refer to a theory set up by Dr. John Brownlee that there are three types of pulmonary tuberculosis, one affecting young adults, a second affecting persons of middle age, and a third affecting persons of more advanced age. Dr. Brownlee has suggested that early and late tuberculosis may be one disease, and middle-aged tuberculosis another. The Committee do not subscribe to this view. They point out that pulmonary tuberculosis in elderly persons usually runs a very chronic course, while in the young it is often very rapid.

The only information available in regard to the age distribution of the disease among the living is that obtained through the pension returns and through the notification returns in Western Australia. In regard to the former it appears that a maximum is reached between the ages of 40 and 60. The Western Australian figures show a low incidence in children under 15 years of age, a gradual increase up to 12.7% at 30 years of age, a depression for the ages 30-35, with a second increase up to 13.8% for the ages 35-40, and gradual decrease after the age of 40.

Sex Distribution.

In the year 1911 the number of males per 100,000 who died of tuberculosis within the Commonwealth was 88, and the number of females 78. In 1913 the male rate was 85, and the female rate 73. In Western Australia, 165 males died of tuberculosis to every 100 females. In Queensland, the male death-rate was 141. In New South Wales it was 131, and in Victoria it was 104, the female rate being expressed by 100. In South Australia and Tasmania the number of females dying of tuberculosis was greater than the number of males, the proportion being 91 males to 100 females in the former, and 85 males to 100 females in the latter. The position in Queensland is further analysed. In regard to pulmonary tuberculosis the death-rates per 100,000 of each sex in 1914 was 57.3 for males and 27.9 for females throughout the whole State. In the metropolitan district the male rate was 98.2, and the female rate 45.7, while in the extra-metropolitan districts the male rate was 46.6 and the female rate 21.8. The figures for the other forms of tuberculosis show greater coincidence. In the whole State the male death-rate was 5.5, and the female death-rate 5.4: in the metropolitan district the male rate was 9.2 and the female rate 10.1, and in the extra-metropolitan districts the male rate was 4.5 and the female rate 3.8.

In New South Wales the death-rate of males from pulmonary tuberculosis was 113 in 1875, 123 in 1885, and 77 in 1914. In 1875 the death-rate for females was 95, in 1885 it was 107, and in 1914 it was 48. In regard to the other forms of tuberculosis the fall in the male rate from 1875 to 1914 was from 45 to 12, and in the female rate from 52 to 6. It is pointed out that in the metropolitan district of Sydney the two sexes were suffering equally in 1914, whereas in the extra-metropolitan districts there has been relatively little improvement, especially in regard to deaths of females.

In Victoria the increase of the death-rate in females was greater than that in males since the year 1860.

The Committee have come to the conclusion from a study of the available data that in the age period from 15 to 30 females suffer more than males; that after 30 years of age men begin to fall victims more than women. The death-rate between the ages of 50 and 54 is relatively high in males, but falls in females. The maximum for males is reached between the ages of 55 and 59, and during the following ten years a decrease is noted. A slight rise in the mortality rate among females is noted between the ages of 55 and 59, which is maintained for a further ten years. After 70 years of age both rates fall. It appears that in Victoria females suffered more than males in 1861. In 1871, although the rates for both males and females had fallen, that of males was higher than that of females. There was a slight rise in the female rate in 1881, and a fall in 1891. The male rate showed a decided rise in 1881, which was continued through 1891. In 1901 both rates were falling. This improvement was continued through 1911. These figures were regarded as important, since it is admitted that the tendency to tuberculosis is governed by the exposure of the individual to bacilli, and by his resistance to infection.

Occupational Distribution.

The data adduced under this heading is limited to males. The Committee publish some figures from which they deduce that the incidence of tuberculosis is not limited to any one occupation. The disease is frequent among those following mercantile pursuits, general industrial work, manufacturing work and mining. In a certain number of cases the death-rate per 100,000 persons employed in the various occupations is set up as an index to the frequency of tuberculosis among the various classes of workers. The first class comprised those of independent means, the second those employed in mining and quarrying, the third those employed in domestic occupations, the fourth those following industrial occupations, and the fifth those following professions. At the other end of the list we find low death-rates among those engaged in agricultural, pastoral and other primary producing occupations. From the figures supplied by the Health Department of Victoria it appears that labourers, clerks and miners produce the largest contingent of consumptives applying for admission to a State sanatorium. The figures, however, are absolute, and not relative.

The Other Forms of Tuberculosis.

The records of deaths from tubercular disease other than pulmonary tuberculosis reveal the fact that there have been approximately four deaths from meningeal tuberculosis to seven of tuberculosis localized elsewhere. Of 556 deaths registered in 1914, 145 were due to acute, miliary or disseminated tuberculosis, 207 from tubercular meningitis, 108 from abdominal tuberculosis, 66 from tuberculosis of the bones and joints, 19 from renal tuberculosis and 11 from other forms. Tubercular meningitis affected children under five years of age more frequently than those over, and affected males more frequently than females. Abdominal tuberculosis occurred almost equally among males and females, and appears to be to a large extent a disease of early life. The other forms of tuberculosis are spread throughout the different age periods. It is noted that the death-rates from the other forms of tuberculosis have decreased at a greater rate than those from pulmonary tuberculosis in New South Wales, Victoria and Queensland. The Committee refer to the improvement in New South Wales in regard to tuberculosis in children under five years of age since the passage of The Dairies Supervision Act.

In their summary of the statistical data, the Committee point out that, despite the improvement in the death-rates from tuberculosis in the Commonwealth, this disease is still far too prevalent. To illustrate the direct financial loss to the Commonwealth, they call attention to the fact that approximately £44,000 has been spent on pensions in respect of invalidity produced by tuberculosis in five years. They therefore claim that means should be taken to secure a great reduction in the mortality and invalidity caused by tuberculosis.

The Spread of Tuberculosis.

Reference is made to a report of a conference of Principal Medical Officers on "Uniform Measures for the Control of Consumption in the States of Australia," issued on April 24, 1911, to the final report of the Departmental Committee on Tuberculosis in the United Kingdom, dated March, 1913, and to the report of the Advisory Board "as to the best methods of dealing with tuberculosis" of New South Wales, dated June 10, 1913. In investigating the sources of infection in Australia, the Committee begin by enquiring into the length of residence in Australia of those persons who died of tuberculosis in 1914. It appears that 72.2% were born in the Commonwealth, and that a further 13.5% has resided there for 20 years or more. Only 7.9% of the total number of these persons had arrived in Australia within ten years of their death, and 2.9% within two years. They therefore conclude that immigration has not played an important part in the production of tuberculosis within recent years. As it is essential to eradicate the disease, if possible, they suggest that the existing administrative measures at present in operation should be rendered as efficient as possible, in order that the immigration of tuberculosis into Australia might be prevented altogether.

The next point dealt with is the question of inheritance. Family incidence is explained on the assumption that a low resistance against the disease may be passed on from parents to children. This possible factor should, in the opinion of the Committee, be subjected to further enquiry and research. The second explanation is unfavourable environment, while the third is family infection, to which they attach great importance. They quote from the records of an investigation which has been carried out in Holland, which demonstrates that in the series dealt with 54.5% of the infections were acquired under the parental roof, and in a large number of instances the source of infection was traced to the husband, wife, fellow-workers, friends, servants, boarders, persons nursed, and to an infected dwelling. They appear to agree with those who hold that tuberculosis cannot be inherited.

In regard to infection from animals, they refer to Professor Delépine's work in Manchester, which proved that an organized control of milk delivered in a large city could result in a great reduction in the frequency of infection of the milk with bovine tubercle bacilli. The frequence of animal tuberculosis in Australia is dealt with. The British Royal Commissioners discovered that out of 108 cases of human tuberculosis investigated, 19 were caused by bovine bacilli. Of these, 14 were cases of primary abdominal tuberculosis, three were cases of cervical gland tuberculosis, and two were cases of pulmonary tuberculosis. In five cases a mixed origin was demonstrated. There is further evidence to show that pulmonary disease is almost wholly caused by bacilli of human origin, and that the same applies to surgical tuberculosis (tuberculosis of bones and joints). These forms account for nearly all the invalidity traceable to tuberculosis.

The Committee adduce evidence in support of the view that tuberculosis is extremely widespread among the community. Naegeli found evidence of latent, active or healed tuberculosis in 98% of all persons examined after death between the ages of 16 and 60 years. Albrecht found evidence of tuberculosis in 33% of children dead of all causes. Sir Harry Allen has found evidence of old slight tuberculous infections in a large proportion of patients who had died in the Melbourne Hospital. The Committee are inclined to the opinion that these slight infections occur throughout life, and are not limited to childhood. They suggest that all persons should be treated in such a manner that their resistance is raised to a point which would enable them to escape infection and further that all these sources of infection should be dealt with, to render them harmless to the community.

The chapter in which the Committee deal with the human sources of infection is the most striking and important in the whole report. They start by enunciating the doctrine that an open focus of tubercular infection in the lung constitutes the most serious element of danger in the spread of tuberculosis. They quote an investigation carried out in Minneapolis, in the United States of America. Dr. H. T. Lampson has found that 67% of the individuals belonging to tuberculous families show evidence of infection. In no case in which there was definite proven exposure of a family to an open case of tuberculosis, no matter what precautions were taken, did he fail to find a spread of infection. In ten families, every member showed evidence of infection. It was discovered that very few individuals revealed evidence of tubercular infection in families in which there was no case of tuberculosis. The spread of tuberculosis from a latent focus was considerably less than from an open case. Similarly, infection spread far less frequently in families in which healed cases were present, than in families in which there were open cases. Other evidence supports the view that infection from man to man by means of infected sputum constitutes the principal method of spread of the disease. Since Lampson met with infection in every member of the ten families, notwithstanding the means adopted to protect the individuals against infection, they conclude that the elimination of tuberculosis resolves itself largely into a question of the discovery and control of infected persons. An enquiry conducted in Melbourne elicited the fact that the possibility of direct personal infection was present in 26.7% of a series of tuberculous persons. A similar enquiry in Western Australia revealed the percentage as 34. The natural conclusion to which these facts have led the Committee is that notification of all cases is an essential to any organized attempt to reduce the amount of infection in any community. The notification should be followed by effective precautions to prevent further infection, and minute examination of all persons who had been in contact with the infected person.

Prophylactic Measures.

The Committee build up their prophylaxis on the basis of notification. They find that the one real objective is to render the spread of infection impossible. They therefore claim that in every case of open tuberculosis the patient should be placed in an institution, where trained supervision is constant and reliable. They emphasize the urgent necessity of isolation of all persons suffering from advanced pulmonary tuberculosis. In the second place they advocate the provision of curative treatment in sanatoria or other institutions, not only for the sake of the immediate treatment, but more particularly for the education which the patient receives. Some data on the results obtained in sanatoria are given. The next instrument recommended is the farm colony. The results obtained by Dr. A. A. Brown at the Greenvale Sanatorium are quoted in support of this measure. A further means of dealing with infected persons in the interests of the patients and of the community is the dispensary. In this connexion, the Committee give a brief outline of Sir Robert Philip's co-ordinated scheme. Lastly, they indicate the manner in which inanimate objects may be infected by patients, and the control necessary to prevent this from being a source of danger to the community.

The measures aiming at a raising of the resistance of the individual to the infection is also dealt with. This section may be briefly summarized in the sentence: Home and personal hygiene should be practised.

Two important points are reserved for mention at the end of the report. The first has to do with the strain on young adult females and on males at the later periods of life. To obtain a better understanding of these facts and their causes, the Committee recommend that careful enquiry should be instituted to disclose the unknown factors. The second point has reference to the nutrition of school children. They quote the evidence of the malnutrition of certain school children in London, and end abruptly by stating that, of 2,000,000 children examined in Great Britain in 1910, between 1% and 4% were found to have tuberculosis in a readily recognizable form.

Recommendations.

The Committee draw up a number of recommendations. The first series consist of a number of questions awaiting solution. Research into these matters is suggested.

The second recommendation is to the effect that administrative measures should be adapted to the knowledge and experience already available. The chief measures enumerated

are the control of bovine sources of infection, and the extension of machinery for the control of human infection.

The last suggestion made is in the following terms:—

> That the Commonwealth Government co-operate with the State Government concerned in a vigorous campaign against tuberculosis in a selected locality in which it is more than ordinarily prevalent. The mining centre of Bendigo offers an exceptionally suitable field for such a campaign, affording as it does opportunity for attacking not only the general problem of tuberculosis in a municipal community, but also the special problem of tuberculosis in mines. The Commonwealth and the State working in co-operation could put into operation all those methods of control known to be useful elsewhere, and could establish their general value or discover modifications necessary for the conditions encountered in Australia. An attempt might with quite reasonable hope of success be made to reduce the tuberculosis death-rate in that direct by half within five years. It would be necessary to provide a laboratory for examination of sputum and minor investigational work, a hospital into which advanced cases should be encouraged to go, a sanatorium for early cases, a dispensary for consultations and as the centre of administration for the campaign, a small staff of visiting nurses and two or perhaps three supervising medical officers. The active assistance of the city health staff would be required.

There are other matters in this report of importance and interest, but those summarized above form the main and fundamental statements contained.

THE BOARD OF HEALTH OF NEW SOUTH WALES.

(*Continued from page 22.*)

Hospitals.

Part IV. of the report is reserved for separate reports of the various State hospitals and asylums under the control of the Director-General of Public Health.

The Coast Hospital.

During the year 1914 4,033 patients were admitted to the Coast Hospital, Little Bay. On January 1 there were 303 patients under treatment, and on December 21 there were 408. The number of deaths during the year was 149, which represents 3.81% of the number of persons finally dealt with in the Hospital. The number of admissions was 331 more than the number in the preceding year. The average number of beds occupied was 273.11, as compared with 335.51 in 1913. Of the 3,729 patients discharged, 2,992 are tabulated as cured, 715 as relieved, and 72 as unrelieved.

During the year 73 patients suffering with enteric fever were dealt with. It appears that 12.58% of all the cases of enteric fever notified within the metropolis were dealt with at the Coast Hospital. The percentage has varied from 26.77% in 1904 to 10.46% in 1910. Twelve of the 73 patients died, which yields a case mortality of 16.43%. The admissions were most frequent during the months of March, April and May.

The total number of patients suffering from scarlet fever, excluding those who were still in hospital at the end of the year, was 628. The total number of cases notified in the metropolis was 1,801. It appears that the percentage of persons suffering from the disease who were treated at the Coast Hospital has increased considerably since the end of last century. There were seven deaths from this disease, and the case mortality was therefore 1.11%. From these figures it is obvious that the epidemic, while comparatively widespread, was not of a virulent type. It is stated that two of the patients were discharged "relieved" and two "unrelieved." It is not clear what is meant. If the failure to "relieve" is intended to indicate that the patients were discharged with temporary or permanent pathological changes resulting from the infection or its sequelæ the expression is most unfortunate. It should not be used. It is inconceivable that the significance of this statement should be that the patients were discharged still suffering from the infection.

There were 977 cases of diphtheria dealt with. Ten of the patients died, and consequently the case mortality was 1.02. The total number of cases notified in the metropolis was 2,244. Since the year 1904 close on half the number of cases notified were treated in the Hospital. The Acting Medical Superintendent publishes a table giving the size of the doses of antitoxin used in the treatment of the disease. Unfortunately he neglects to give the information which would render these statements of practical value. It appears that the smallest dose was 2,000 units, and was given in 25.6% of all the cases, while in one case 120,000 units were given. In order to determine the proper dosage of antitoxin it is necessary to have regard to the day of disease when the treatment was started, the age of the patient, and the result of the treatment. The mortality of 1.02% suggests that antitoxin in suitable doses was given to the vast majority of the patients within 24 hours of onset. Whether the dose should be 2,000, 4,000, 6,000, 8,000, or 10,000 units does not transpire. Two patients were discharged "unrelieved."

There were 82 cases of morbilli, with one death; 36 of pertussis, with four deaths; 20 of parotitis, without any deaths; and six of variola, also without any deaths. We note that one patient with variola was discharged "unrelieved."

The total number of cases of syphilis dealt with during the year was 295. Of these, 275 were discharged, one died, and 19 were still under treatment at the end of the year. In 69 cases the disease was in the primary stage, in 156 it was in the secondary stage, and in 69 it was in the tertiary stage. There was one case of hereditary syphilis. Of 231 patients admitted for treatment of gonorrhœal conditions, 125 were discharged cured, 80 were discharged relieved, 6 were discharged unrelieved and one died. In addition, there were 22 cases of soft chancre.

From the summary of the diseases treated in the Hospital during the year we learn that 401 were instances of diseases of the digestive organs, and in this category there were ten deaths. In 178 the disease was situated in the genito-urinary apparatus, and the number of deaths was 22. There were 157 cases of disease affecting the respiratory system, with 13 deaths; 157 cases of disease of the skin, with three deaths; 142 cases of diseases of the circulatory apparatus, with 15 deaths; 88 cases tabulated under the heading puerperal condition, with seven deaths; 73 cases of diseases of the nervous system and of the organs of special sense, with three deaths; 50 cases of diseases of the organs of locomotion, with one death; and 247 instances of conditions variously described as malformations, infancy, old age, violence, and ill-defined disease, with five deaths. The total number of operations performed was 636. Death occurred in eight cases within ten days of the operation.

In the laboratory a large number of bacteriological examinations were carried out. From the summary we learn that no Widal tests and no Wassermann tests were carried out, while only five leucocyte counts were done. In view of the large number of patients suffering from enteric fever and syphilis, modern means of confirming the diagnosis in the laboratory should be used in an up-to-date institution.

The total expenditure during the year amounted to £28,252, which was reduced to £27,749 by certain collections being paid to revenue and various other adjustments. The cost per occupied bed was £74 7s. 5d. In 1913 it was £87 6s. 6¼d.

David Berry Hospital.

During the year 1914 the treatment of 216 patients was completed in the David Berry Hospital. There were 216 admissions during the year, while the number remaining in the Hospital on December 31, 1914, was the same as the number handed on from the previous year. Twenty-four patients died, and of the 192 patients who were discharged, 171 are said to have recovered from the conditions for which they were admitted. The number of cases of any one disease is too small to admit of deductions being made in regard to case mortality.

During the year a windmill was erected as an auxiliary water supply, and various minor improvements and repairs were effected. The expenditure on the institution was £1,791. In 1913 the expenditure was £2,214.

Lady Edeline Hospital for Babies.

The first annual report of Lady Edeline Hospital for Babies includes a short history of the institution. The hospital was founded by the Honourable Frederick Flowers during his period of office as Minister of Public Health. The premises "Greycliffe," at Vaucluse, Sydney, had been resumed by the Government, and were converted into a hospital for babies. A board of directors was appointed, with Dr. R. T. Paton as Chairman, Mr. A. W. Green as Vice-Chairman, Mrs. C. Carmichael as Honorary Treasurer, and Mr. P. H. Neely as Honorary Secretary. The honorary medical staff included three visiting medical officers, Dr. C. W. Reid, Dr. L. R. Parker and Dr. H. C. Evans, a consulting physician, Dr. Storie Dixson, and a consulting surgeon, Dr. Charles MacLaurin. The Hospital was opened on November 19, 1913. There were four wards containing 30 cots. Since December 3, 1913, 231 infants have been admitted into the institution. The object of the Hospital is to provide treatment for infants under two years of age who are suffering from gastro-enteritis. Of the 231 infants 41 have died. The mortality is therefore 17.8%. The average length of residence of the patients in the Hospital was 29.2 days. In order that a control may be kept over a discharged patient, the mothers are encouraged to bring their children to a clinic at the offices of the Board of Health.

The Matron appends a more detailed account of the work of the Hospital. The patients are conveyed from the nearest stopping-place on the Watson's Bay tram route by waggonette, which can be ordered by telephone by the doctor recommending the patient for admission. The milk used in the institution is obtained from cows belonging to it, and is of a high quality. In some cases mothers are admitted with their babies. Training of pupil nurses in baby nursing is accorded. An analysis of the cases dealt with reveals the following facts: There were 77 infants under three months of age. Fifteen of these died. The mortality would therefore appear to be 19.5%; but, inasmuch as 34 infants were still under treatment at the end of the year under review, the mortality was probably somewhat higher. The number of infants under six months was 54, and of these 14 died, or 25.9%. The number of infants between six and twelve months was 58, and of these five died, which is equivalent to 8.6%. There were, further, 39 children between one and two years of age, and seven of these died, yielding a mortality of 17.9%. All the three children over two years of age recovered. It is stated that of the 41 babies that died, 25 were already moribund, or nearly so, on admission. The total number of gastro-enteritis cases was 160; but of these 26 were still under treatment at the end of the year. There were 29 deaths from this condition, and 105 patients were discharged cured. The case mortality was therefore 23.4%. In addition, there were seven cases of pneumonia complicating gastro-enteritis. Two of these patients were still under treatment at the end of the year, and the remaining five died. There were three cases of pertussis complicating gastro-enteritis, with one death; one case of gastro-enteritis complicated by double inguinal hernia; one case of gastro-enteritis complicated by congenital heart disease; and 21 cases of gastro-enteritis complicated by bronchitis. The heart disease patient died. There were therefore 155 cases of gastro-enteritis, with 35 deaths, of 22.6%. To these might be added two cases of enteritis with congenital syphilis, both fatal, one case of enteritis with anæmia, nine cases of enteritis with eczema, and two cases of enteritis with otitis media. If the enteritis cases be added to the gastro-enteritis cases there would be 169, with 37 deaths, which gives a case mortality of 21.9%. The remaining cases include two of tubercular meningitis, two of nephritis, two of erysipelas, six of ophthalmia, and one of obstructed jaundice. Three of these thirteen children died.

Waterfall State Sanatorium.

At the Waterfall State Sanatorium, 302 patients were under treatment on January 1, 1914. During the year 524 were admitted, and at the end of the year 309 were still under treatment. The treatment was therefore completed in 510 cases. One hundred and thirty of the patients died. This gives a mortality of 25.4%, calculated on the basis of the number of those in whom the treatment had been completed. There were 380 patients discharged during the year. The disease was arrested in 96 of these. The percentage of arrest was therefore 18.8. The average residence of all the discharged patients was 193 days, and of the deceased patients was 209 days. There were 23 patients in the incipient stage of the disease. Of these, 19 are entered as arrested cases. There were 140 cases in the "moderately early stages." In 51 arrest was secured. Unfortunately there is no record of the number of patients in whom sputum bacilli were found on admission and on discharge. Assuming that these two classes—incipient and moderately early—represent the sum total of cases suitable for sanatorium treatment, there would be 163 cases, with arrest in 70, which is equal to 42.3%. It would be useful if the Medical Superintendent would give details in future reports of the patients who had been under treatment five years or more before, especially if he could add the number of those alive and the date of death of those who had died. There were 200 "moderately advanced" cases. Arrest was obtained in 26, or 13% of these, while 28 of the patients died; that is, the mortality within the year was 14%. There were 167 "far advanced" cases, with 102 deaths. The mortality in this group of cases was therefore 61%. In no case was the disease arrested, while six of the patients were much improved at the time of their discharge. Reference has already been made to this subject and to the means of treating tuberculosis under the heading of "Tuberculosis" (see page 21).

Rookwood State Hospital and Asylum for Men, Lidcombe.

The Rookwood State Hospital has accommodation for 678 patients, while the Asylum gives shelter to 743 persons. During the year 1914 3,622 persons were admitted, while there were 229 in the institution at the beginning of the year. The number of hospital patients was 642.

In the Neurological Department there are two wards set aside for epileptic and mental cases. There were 137 patients in these wards. Sixty-six patients were certified as insane, and transferred to the hospitals for the insane. In the Dermatological Department 319 patients received treatment. The patients from the Ear, Nose and Throat Department were transferred to the Out-Patients' Department of the Sydney Hospital, as the Honorary Aurist, Dr. Cooley, resigned. In December, the activities of this Department were revived on the appointment of Dr. W. A. Dunn to the vacant position. In the Ophthalmic Department 420 conditions came under treatment, and 26 operations were performed. A considerable amount of work was carried out in the wards set aside for surgical conditions, and in the course of the year 176 major operations were performed.

The Chest Ward is situated within the grounds of the institution, but is separated from the other buildings. There is accommodation for 60 patients, and a marquee tent was erected to increase this number by 14. The actual number of patients dealt with is not given, but appears to be approximately 580. Of these, 116 died, the mortality rate being 20%. The number of transfers to the Waterfall Sanatorium was 65.

A Lock Ward for six patients exists. Patients in excess of this number are transferred to the Liverpool State Hospital and Asylum. A similar ward for six patients was used for small-pox, but proved insufficient. The isolation block proper was utilized for persons suffering from the ordinary infective fevers.

The larger metropolitan hospitals transfer chronic cases to this institution.

State Hospital and Asylum for Men, Liverpool.

The number of inmates in the State Hospital and Asylum for Men, Liverpool, from January 1, 1914, was 579. During the course of the year 1,496 were admitted. The number of persons discharged was 1,321 and of deaths was 164.

The chief medical work in the institution appears to be that conducted in the Lock and Cancer Divisions. Much

work, however, has been achieved in the Ophthalmic and General Wards, which have been persistently overcrowded. In the Lock Division 249 patients were admitted, and 19 were under treatment at the beginning of the year. The treatment was completed in 237 cases. The normal accommodation is stated to be 14, but as many as 32 patients were accommodated in the Division at one time. A dozen German prisoners of war were admitted from the Holdsworthy Concentration Camp, and were housed in tents. No further details are given.

In the Cancer Division 105 fresh patients were admitted, 31 were still under treatment at the beginning of the year and 32 at the end of the year. The total number in whom the treatment was completed was therefore 104, and of these 51 died and 51 were discharged.

State Hospital and Asylum for Women, Newington.

The State Hospital and Asylum for Women, Newington, was opened as a benevolent asylum for destitute and infirm women in the year 1878. The size of the institution has grown considerably since that time, and its scope has been extended to include the medical care of its inmates. About one-half of the women are in the hospital part of the institution under medical treatment. The number of admissions during the year was 1,279, to which must be added 706, representing the number of inmates on January 1, 1914. At the end of the year there were 732 persons in residence. There were 133 deaths throughout the institution. The number of admissions to the hospital was 769. The causes of death include 58 from senility, 11 from carcinoma, 11 from morbus cordis, 10 from syncope, 9 from bronchitis, 8 from pulmonary tuberculosis and 6 from cerebral hæmorrhage *inter alia*. Seventeen operations were performed during the year.

Attached to the institution is an Out-patient Department, at which 615 patients attended. A large variety of pathological conditions was dealt with.

Other Asylums.

The reports of the State Asylum for Aged and Infirm Men at Parramatta, of the State Asylum for the Blind, and for Men Suffering from Defective Sight and Senility, at Parramatta, and of the Cottage Homes for Aged Couples, also at Parramatta, are appended. There are no details of medical work included in these reports.

Hospital Admission Depôt.

The first Government Officer for Sydney, Dr. Arthur Palmer, gives a report of the work accomplished in the Hospital Admission Depôt. The two Government medical officers attended the Depôt from 9 to 12.30 each morning for the purpose of examining indigent sick persons who were seeking admission to the various hospitals. At times destitute sick persons were visited in their own homes before being sent to a hospital. During the year 12,761 persons applied at the Depôt for admission to the hospitals and asylums. Of these 2,907 were sent to the Coast Hospital, 237 to the Sydney Hospital, 192 to the Royal Prince Alfred Hospital, and 150 to the Women's Hospital. Out-door treatment was secured for 2,069 patients. A large number of persons were admitted to the Hospice for the Dying, to the State hospitals and asylums, and to the convalescent institutions. Of the total number of applicants 21.4% were said to be over 60 years of age, and 16.7% were between 50 and 60. Only 5.2% were under five years of age.

Candidates for appointment to the Public Service are examined, and special medical examinations of public servants are also carried out. In connexion with the Factories Act no less than 2,358 persons were examined. The work at the Hospital Admission Depôt includes vaccination.

There were 24 examinations conducted in medico-legal cases, and in the course of these investigations the collaboration of the Government Analyst of the medical officers at the Micro-biological Laboratory and of other officials was secured before evidence was given in the witness box.

In the Police Department 605 candidates were examined for admission into the Force, and 137 probationers were re-examined after 12 months' service. The average of sick policemen attended to daily was between 20 and 23.

Prior to the closing of the Darlinghurst Gaol in August, 1914, a daily attendance was made for the purpose of examining prisoners. Since then periodic visits to the Long Bay Penitentiary have been made. A daily visit was carried out to the Reception House at Darlinghurst, and 627 persons were certified as insane.

The duties of the Government medical officers further include attendance at the meetings of the Miners' Accident Relief Board, the examination of harbour and sea pilots, and the examination of patients and accident cases in connection with claims for compensation, etc.

The report also includes a record of the work accomplished in the Motor Ambulance Service, and in the Disinfecting and Fumigation Station.

Private Hospitals Act, 1908.

The report of the Government Assistant Medical Officer, Dr. A. T. Chapple, on the working of the Private Hospitals Act, 1908, is a short document.

During the year 105 applications were received, and of these 28 were refused, and 19 were withdrawn. In the majority of cases the refusals were based on the fact that the resident managers nominated for approval were unable to submit certicates of training in maternity work. In a few instances the character of the applicants was not satisfactory, and in others the accommodation provided was regarded as insufficient. The premises for which licenses were refused included four in Sydney and its environs, and 24 in the country.

During the year 161 licenses were issued, and 87 were withdrawn. In 180 provision for medical, surgical, and maternity cases existed; in 325 there was provision for maternity cases only, and in 14 there was provision for medical and surgical cases only. The licensees were qualified medical practitioners in 38 cases, were certificated nurses in 288 cases, and were uncertificated persons in 193 cases. Twenty of the resident managers were medical practitioners; 137 were trained nurses; and 189 were untrained nurses.

The total number of cases of puerperal septicæmia dealt with in private hospitals was nine. No further maternity patients may be admitted into a hospital in which there is a septic puerperal case, until the hospital is released by the health authority.

Health Visiting and Baby Clinics.

The report of the Nurse-Inspector on the work of health visiting, and of the Baby Clinics, for the year 1914, deals with the Metropolitan and Newcastle districts, the latter for six months only. The Nurse-Inspector expresses the opinion that the wives of working-men spent the maternity bonus in the majority of cases on nourishment and clothing. A few of the younger women spent it frivolously. She adds that the £5 does not cover the maternity expenses, since nurses and doctors have increased their fees considerably since the inauguration of the scheme. She also calls attention to the practice of uncertificated midwives. Several cases of septicæmia were traced to one woman in Alexandria to whose carelessness and ignorance the infections were ascribed. The health visiting appears to have had a beneficial effect, both on the hygienic conditions of the homes, and on the welfare of the mothers and babies. Soothing syrups are said to have been used less frequently. During the course of the year an attempt was made to influence the expectant mother, more especially in regard to the proper care of the breasts.

The first Baby Clinic was opened in Alexandria, and three others were established later in the year in Newtown, Woolloomooloo and Balmain. The average attendance at the Clinics was from 20 to 30, and the Nurse-Inspector speaks hopefully of the ultimate value of these institutions. She appends a record of the number of visits paid, and of other details. In Sydney 802 of the visited infants were wholly breast-fed, 112 were partly breast-fed, and 59 were fed entirely with artificial foods. The most common artificial food used was condensed milk, while patent foods were used in 19 cases only. In Newcastle the nurses attended 126 infants wholly breast fed, 55 partly breast fed, and 20 artificially breast fed. Next to condensed milk the most common artificial food was *Glaxo*. It is noteworthy that of

93 infants wholly or partly fed by artificial means in Sydney only six received cow's milk, and of 73 in the Newcastle district only five were fed on cow's milk.

(To be Continued.)

Naval and Military.

The 261st list of casualties, which was issued on January 5, 1917, contains the name of Captain W. Vickers among those wounded. From the same list we learn that Captain E. M. Fisher is ill in hospital, and that Captain A. P. Wall has returned to duty.

The following announcement has appeared in the *Commonwealth Gazette*, No. 1, which bears the date of January 4, 1917:

Australian Imperial Force.

Termination of Appointment.

His Excellency the Governor-General, acting with the advice of the Federal Executive Council, has been pleased to approve of the appointment in the Australian Imperial Force of Colonel (temporary Surgeon-General) Sir W. D. C. Williams, K.C.M.G., C.B., being terminated. Dated 31st December, 1916.

Special Correspondence.

(By Our Special Correspondent.)

CANADA LETTER.

The Canadian Army Medical Corps.

In view of the splendid work that has been done by the Canadian Army Medical Corps in the present war, and the fact that upon the outbreak of war it was found second to none in preparedness, the report recently prepared by Colonel H. A. Bruce, C.A.M.C., under the direction of Sir Sam Hughes, at that time Minister of Militia, was a distinct surprise to the majority of the members of the profession in Canada. Extracts from the report have been published in the lay press, and have engendered a feeling of criticism that is unmerited. The announcement of the resignation of Colonel Guy Carleton Jones, C.M.G., as Director-General of the Canadian Army Medical Corps was followed by the news of the resignation of Sir William Osler, Bart., as consultant to the Canadian hospitals in England. A later dispatch brought the welcome intelligence that Colonel Jones was to remain in England, and had resumed his former duties, and that Sir George Perley had been appointed Minister of the Canadian forces overseas.

Unfortunately, it is true, as stated in the report prepared by Colonel Bruce, that a number of Canadians have enlisted and have been sent to England who were unfit for active service, and that Canada has thus been put to unnecessary expense, both in the transportation of these men and in providing for their future needs in many cases. However, the blame for this cannot be placed on the examining medical officer. The fact is due rather to the keen competition that exists between rival battalions in the matter of recruiting, and many instances have occurred in which the medical officer has been obliged to pass men, in spite of the fact that he did not consider them fit for overseas service. The report has served to direct attention to this matter, and a medical examination of all men undergoing training in Canada at the present time has been ordered. Another matter dealt with in the report is the question whether Canadian wounded soldiers should be placed in hospitals with other Canadians only or with members of the British Expeditionary Forces other than Canadians. It is claimed that Canadian hospitals can be operated more economically under the direction of the Canadian Army Medical Corps than under the former arrangement. Whether this is so or not remains to be seen, but it is felt by many that politics has played too large a part in the whole question.

An announcement has been published in the daily press that Colonel Jones has replied to Colonel Bruce's report, and that both the report and the reply are to be made the subject of an enquiry by a Board selected by the Director-General of Medical Services in Great Britain at the request of Sir George Perley. The President of the Board of Enquiry will be Surgeon-General Sir William Baptie, and the other members will be Colonel E. C. Ashton, G. O. C. Shorncliffe, General Fotherington, A.D.M.S. of the Second Canadian Division, Colonel A. E. Ross, A.D.M.S. of the First Naval Division, and Lieutenant-Colonel J. M. Elder, of No. 3 Canadian General Hospital (McGill Military Hospital).

The Treatment of Invalided Soldiers.

Between twenty and thirty hospitals have now been established in various parts of the Dominion by the Military Hospitals Commission for the treatment of invalided soldiers, a large percentage of whom are suffering from tuberculosis or rheumatism. No less than six thousand patients have already passed through these hospitals, and numbers of Canadian soldiers are now undergoing treatment in England, who will be sent to Canada as soon as accommodation for them is provided. Among those suffering from tuberculosis are many who have never been overseas; in fact, about 60% of those who are now in sanatoria in Canada have never crossed the ocean. It is anticipated that about thirty tubercular patients may be expected from England every month, in addition to the cases which may develope on this side. A meeting of experts was called at Montreal on September 15, 1916, to consider the question, and among those present were Drs. Baldwin, of Saranac Lake, U.S.A., Parfitt and Elliott, of Muskoka, Ontario, and J. H. Byers, of Ste. Agathe, Quebec. Dr. F. J. Shepherd, formerly Dean of the Medical Faculty of McGill University, was in the chair, and Lieutenant-Colonel Thompson, medical superintendent of the hospitals under the commission, was also present. It was recommended that temporary arrangements should be made with existing sanatoria for the reception of military patients during the coming winter, and that property should be purchased in localities suitable for the treatment of tuberculosis, permanent buildings to be erected thereon fitted with every modern appliance for the treatment of the disease. The first of these recommendations has already been put into effect, and a number of existing sanatoria have been taken over by the Commission, and in some cases suitable buildings have been converted into sanatoria. One of the greatest difficulties encountered in the treatment of tubercular soldiers is the attitude of the patient himself. Civil patients usually pay for their treatment, partially at least, and recognize that the more careful attention they pay to the directions of the doctor the greater is their chance of a speedy recovery and a cessation of an expense which in many cases they can ill afford. The soldier, on the other hand, does not pay for his treatment, and, as a rule, seems to be indifferent to his health. He becomes restless and nervous under the enforced inactivity, and his restlessness often developes into depressed discontent and finally insubordination. In view of this, it is suggested by the medical officers in charge of sanatoria that the English methods be followed rather than the American. That is that graded exercise and occupation suitable to the condition of the patient be given, and a request has been made to the Military Hospitals Commission that suitably-constructed workshops and instructors be provided at the different sanatoria. It is thought that even patients who are suffering from the disease in an acute stage might with advantage be employed in drawing, sketching, weaving, embroidery and lace-making. It would be necessary, of course, that each patient were examined every day, to make sure that the work was not too much for him. Other occupations suggested are: basket-making, carving, art metal work, illuminating, engraving, stenography and typewriting, mechanical and industrial drawing, etc. It is thought that the installation of moving-picture machines, which would provide both instruction and recreation, might be possible, and would facilitate discipline, as an insubordinate patient could be debarred from seeing the pictures, which would have more effect than a mere fine.

Vocational Training of the Disabled Soldier.

A report on Vocational Training has been prepared by the Military Hospitals Commission, and has been adopted

by the Canadian Government. It provides for the training of disabled members of the Canadian Expeditionary Force, and of reservists of the British and Allied armies who before the war were *bona fide* residents of Canada. Training in general subjects and elementary vocational work has been commenced already in some of the Convalescent Homes, and particularly in the Clayton Convalescent Home at Halifax, which was the first institution to be opened in Canada for the express purpose of the educational, vocational and physical training of disabled soldiers. Assurance has been received by the Commission of the active co-operation of provincial governments and the municipalities in the re-education of the disabled soldier, and a number of technical schools, agricultural colleges, public and private institutions have offered to give tuition, in most cases free of charge, and subsequently to provide the men with suitable employment. The main feature of the report, however, was a schedule of rates to be paid to men undergoing training for their personal expenses, and the following arrangement has been made:—

A single man, with pension, will receive board, lodging and washing if living in the institution; if living out, he will receive sixty cents a day. A married man, with pension, living in, will receive free maintenance and eight dollars a month, plus allowances for wife and children; living out, he will receive sixty cents a day, plus allowances for wife and children. These allowances are: for wife without children, $35 a month, less her husband's pension; for wife and one child, a monthly allowance of from $38 to $42.50, according to the age of the child; for wife and two children, from $41 to $47 a month; and so on to a maximum of $55 a month, which will be paid to a wife with seven children or more. The money will be paid direct to the wife, and in each case will be less the husband's pension. The parents of a man undergoing training, if entirely dependent upon him, may be paid at the same rate as a wife with no children. The guardian of a widower's children (under the ages of sixteen or seventeen) will receive a monthly payment of $10 for one child, $17.50 for two, $22 for three, and three dollars for each additional child up to a maximum of thirty-five dollars.

The Pensioning of Disabled Soldiers.

One of the many problems that have arisen in connexion with the war is the maintenance of the soldier who, in fighting for his country, has become disabled, and therefore is no longer in a position to provide for himself. This question has been under consideration for some time by the Canadian Government, and a Permanent Board of Pension Commissioners has been appointed for a period of ten years. The appointment has been made for this length of time because it was thought that by this means the Commission would be freed from political influences and be able to devote all its energies to an impartial administration of pensions according to the scale prepared. The Commission consists of three members, Mr. J. K. L. Ross, of Montreal, as chairman, Colonel Labatt, and Dr. J. L. Todd, Associate Professor of Parasitology in McGill University. Major Todd, who went overseas with the McGill Military Hospital, was a member of the Pension and Claims Board in England, and has made a study of the pension systems of Great Britain and France.

Soldiers entitled to receive a pension will be divided into the following classes, and the amount of pension will depend upon the disability incurred:—

Class 1.—Total disability, 100% of the following scale:—

	Yearly.
Rank and file	$480
Squad, Battery or Company Sergeant-Major: Squad, Battery or Company Quartermaster Sergeant; Colour Sergeant; Staff Sergeant	510
Regimental Sergeant-Major, not Warrant Officer; Master Gunner, nor Warrant Officer; Regimental Quartermaster Sergeant	620
Warrant Officer	680
Lieutenant	720
Captain	1,000

Class 2.—Disability 80% and less than 100%, pension 80% of Class 1.

Classes 3, 4 and 5.—Disability 60%, 40% and 20%, pension 60%, 40% and 20% respectively.

Class 6.—Disability under 20%, a gratuity not exceeding $100.

A further allowance of an amount not exceeding $250 a year may be granted to those up to and including the rank of lieutenant, who are totally disabled, and, in addition, are totally helpless as far as attendance to their physical wants is concerned. An allowance of $6 a month is made for each child of pensioners of Classes 1, 2 and 3, up to and including the rank of lieutenant, and of $7 a month in the case of a captain.

A widow of a member of the forces who has been killed in action is entitled to 80% of the maximum pension until she remarries, in which case her pension ceases, but she receives one year's gratuity. She also receives the allowance for children, paid in the case of a boy until he is sixteen years of age, and in the case of a girl until she is seventeen. If a child is suffering from mental or physical infirmity, it rests with the Commissioners whether or not the allowance shall be continued longer than the sixteenth or seventeenth year.

If a widower is killed, each child is entitled to receive $12 a month.

A widowed mother, stepmother or grandmother wholly dependent uopn a member of the forces who has been killed, is entitled to 60% of the total pension. This applies also to a father who was wholly dependent upon a son who has been killed.

Correspondence.

BABIES' HELP FUND.

Sir,—May I bring under your notice a scheme to be known as the Babies' Help Fund, which is to be brought into operation forthwith. The fund at the present time is under the control of the Royal Alexandra Hospital for Children, and worked in conjunction with the District Nursing Association. The object of the fund is to enable babies who are suffering from gastro-enteritis to be nursed by a district nurse in accordance with the direction of the medical attendant and by their mothers in their own homes, instead of sending them to hospital, where the treatment of such cases has been tried and found wanting, and applies to those cases only in which the mother is the bread-winner. The following extract embodies the procedure to be carried out:—

> "A doctor sees a case that he thinks is suitable to be helped by the fund. He prescribes and sends the patient home, telling the parents the District Nurse will call and report if assistance is necessary. He sends the particulars to the District Nursing Association, and recommends assistance. A district nurse will call, not later than the next day, attend to the case, and take particulars of the parents' circumstances. She will submit these particulars to the Matron, who will allot the assistance necessary. The case will remain for medical treatment under the doctor (hospital or otherwise), and the District Nurse will call regularly. The Matron of the District Nursing Association will decide when the assistance is to cease.
>
> "Assistance to be left to the discretion of the Matron of the District Nursing Association, but the weekly payments not to be more than £1."

We shall be glad if you will refer any cases you deem suitable to our Matron, and so help to further this work, which we hope will prove a most beneficial one.

Yours, etc.,
LILIAN M. ANTILL,
Hon. Secretary,
District Nursing Association.

District Nursing Association,
112 Surrey Street, Darlinghurst,
Sydney, December 28, 1916.

[The reader is referred to page 32 for the full details of the scheme.]

Books Received.

SURGICAL ANATOMY, by John A. C. Macewen, B.Sc., M.C., C.M., F.F.P.S., Glasgow; 1916. London: Bailliere, Tindall and Cox. Demy 8vo., pp. 535. Price 10s. 6d. net.

CIRCULATION AND RESPIRATION, Second Series, Clinical and Experimental, by Sir T. Lauder Brunton, M.D., D.Sc., L.L.D. (Edin. and Aberd.), F.R.C.P., F.R.S.; 1916. London: Macmillan and Co., Limited. Demy 8vo., pp. 719. Price, 5s net

DISEASES OF THE THROAT, NOSE AND EAR, for Practitioners and Students, by W. G. Porter, M.B., B.Sc., F.R.C.S., Ed., Second Edition, revised by P. McBride, M.D., F.R.C.P., Ed., F.R.S.E.; 1916. Bristol: John Wright and Sons, Ltd. Demy 8vo., pp. 280. Price, 7s. 6d.

Medical Appointments.

The Senate of the University of London has awarded the Roger prize, the value of which is £100, to Dr. J. Leon Jona for an essay on "The Nature of Pyrexia and its Relation to Micro-organisms."

Dr. F. A. Sweetnam has been appointed Medical Officer of Health of the Mount Rouse Shire, Victoria.

Dr. T. F. Hayes has been recommended for appointment as Public Vaccinator for the Midland District at Woodspoint, Victoria.

In the *New South Wales Government Gazette* of January 5, 1917, the promotion of Dr. Leslie Oswald Sheridan Poidevin to the position of Permanent Medical Officer in the Department of Education is announced. In the same issue the appointment on probation for six months of Dr. Clement Armour Verco as Medical Officer in the Department of Education is also announced.

Dr. John Stewart has been appointed Medical Officer to attend destitute persons and aborigines in the Georgetown District, South Australia.

The following have been appointed members of the State Children's Council of South Australia: Lady Holder, Dr. C. W. Hamilton, W. Hutley, Esq., J.P., and N. A. Webb, Esq., LL.B., S.M.

Dr. Thomas Borthwick has been appointed a member of the South Australian Medical Board.

We learn that Dr. E. H. Binney has resigned his position as Honorary Surgeon to the Sydney Hospital after eight years' service. The Board of Directors have passed a resolution thanking Dr. Binney for the valuable services he had rendered, and have instructed the Secretary to convey this message to him.

Medical Appointments.

IMPORTANT NOTICE.

Medical practitioners are requested not to apply for any appointment referred to in the following table, without having first communicated with the Honorary Secretary of the Branch named in the first column, or with the Medical Secretary of the British Medical Association, 429 Strand, London, W.C.

Branch.	APPOINTMENTS.
VICTORIA. (Hon. Sec., Medical Society Hall, East Melbourne.)	Brunswick Medical Institute. Bendigo Medical Institute. Prahran United F.S. Dispensary. Australian Prudential Association Proprietary, Limited. National Provident Association. Life Insurance Company of Australia, Limited. Mutual National Provident Club.
SOUTH AUSTRALIA. (Hon. Sec., 3 North Terrace, Adelaide.)	The F.S. Medical Assoc., Incorp., Adelaide.
QUEENSLAND. (Hon. Sec., B.M.A. Building, Adelaide Street, Brisbane.)	Brisbane United F.S. Institute
WESTERN AUSTRALIA. (Hon. Sec., 230 St. George's Terrace, Perth.)	Swan District Medical Officer. All Contract Practice Appointments in Western Australia.
NEW SOUTH WALES. (Hon. Sec., 30-34 Elizabeth Street, Sydney.)	Department of Public Instruction—Appointments as Salaried Medical Officers, with duties which include the treatment of school children. Australian Natives' Association. Balmain United F.S. Dispensary. Canterbury United F.S. Dispensary. Leichhardt and Petersham Dispensary. M.U. Oddfellows' Med. Inst., Elizabeth Street, Sydney. Marrickville United F.S. Dispensary. N.S.W. Ambulance Association and Transport Brigade. North Sydney United F.S. People's Prudential Benefit Society. Phœnix Mutual Provident Society. F.S. Lodges at Casino. F.S. Lodges at Lithgow. F.S. Lodges at Orange. F.S. Lodges at Parramatta, Penrith, Auburn, and Lidcombe. Newcastle Collieries — Killingworth, Seaham Nos. 1 and 2, West Wallsend.
NEW ZEALAND: WELLINGTON DIVISION. (Hon. Sec., Wellington.)	F.S. Lodges, Wellington, N.Z.

Diary for the Month.

Jan. 16.—N.S.W. Branch, B.M.A., Executive and Finance Committee.
Jan. 18.—Vic. Branch, B.M.A., Council.
Jan. 19.—Queensland Branch, B.M.A., Council.
Jan. 23.—N.S.W. Branch, B.M.A., Ethics Committee.
Jan. 30.—N.S.W. Branch, B.M.A., Medical Politics Committee; Organization and Science Committee.
Jan. 31.—Vic. Branch, B.M.A., Council.
Feb. 7.—Victorian Branch B.M.A., Branch Meeting.

EDITORIAL NOTICES.

Manuscripts forwarded to the office of this Journal cannot under any circumstances be returned.

Original articles forwarded for publication are understood to be offered to *The Medical Journal of Australia* alone, unless the contrary be stated.

All communications should be addressed to "The Editor," *The Medical Journal of Australia*, B.M.A. Building, 30-34 Elizabeth Street, Sydney, New South Wales.